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MAINE

OCCUPATIONAL

STAFFING PATTERN

For

EDUCATIONAL SERVICES

INDUSTRY

Data for October 1979

BUREAU OF EMPLOYMENT SECURITY
DIVISION OF ECONOMIC ANALYSIS AND RESEARCH 20 UNION STREET, AUGUSTA, ME 04330
A BUREAU OF THE MAINE DEPARTMENT OF LABOR

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MAINE OCCUPATIONAL STAFFING PATTERN

FOR

EDUCATIONAL SERVICES INDUSTRY

OCTOBER 1979

This labor market information is developed through a cooperative program with the U.S. Bureau of Labor Statistics, and is funded by the U.S. Employment and Training Administration

DIVISION OF ECONOMIC ANALYSIS AND RESEARCH
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PREFACE

We wish to express our thanks to the many school systems and employers who cooperated in filling out the questionnaire which supplied part of the necessary occupational employment data on which the estimates presented herein are based, and to the Maine Department of Educational and Cultural Services who gave permission to use the data in their "Staff Information System" and assisted in extracting the data in a format compatable with the Occupational Employment Statistics Program.

We also wish to extend our thanks to the U.S. Department of Labor, both in Washington, D.C. and the regional level in Boston, Massachusetts, for their assistance in this federal-state cooperative effort.

TABLE OF CONTENTS

	Page
INTRODUCTION.....	1
EDUCATIONAL SERVICES, SIC 82.....	3
METHODOLOGY.....	11
TECHNICAL NOTES.....	13

INTRODUCTION

This publication is one of a continuing series of reports presenting occupational profiles of selected industries in Maine. The information in these reports is a direct result of the survey phase of the Occupational Employment Statistics (OES) program.

The OES program is a federal-state cooperative endeavor involving the Maine Department of Labor and the U.S. Department of Labor's Bureau of Labor Statistics and Employment and Training Administration. The purpose of this program is to collect occupational information from the private and public sectors of the economy in order to establish occupational profiles in industry and government and to provide a base for projections of future occupational demand. The data contained in this report is also useful to planners, economists, and educators in evaluating educational and training programs and in assisting employers to maintain a balance between the supply and demand of trained personnel.

This report presents the staffing pattern in the educational services industry, including both public and private sector establishments. This is the first survey of educational services conducted by the OES program.

EDUCATIONAL SERVICES

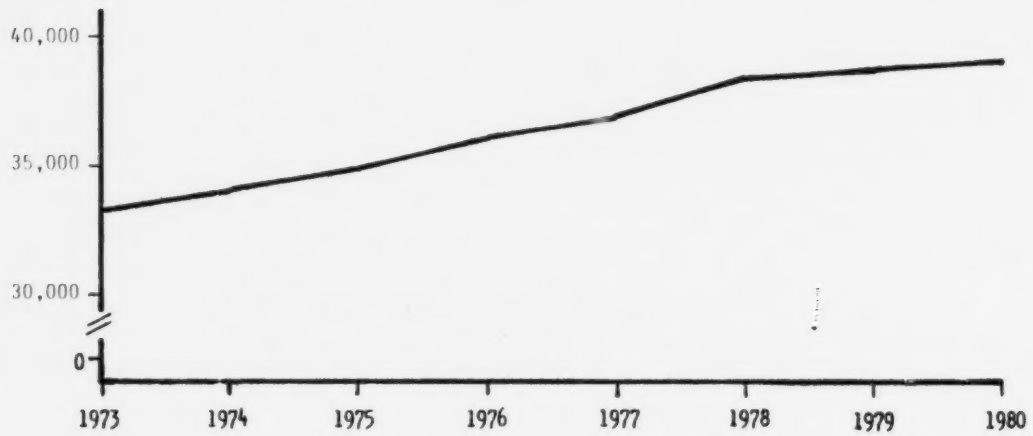
SIC 82

This major industry group includes establishments furnishing formal academic or technical courses, correspondence schools, commercial and trade schools, and private libraries and information centers.

Annual average employment in education grew about 10 percent between 1975 and 1979. Public schools administered by local governments employed the largest number of people in this industry and also added about 950 jobs during this period. Employment in schools operated by state government increased 25 percent during this period adding over 1,770 new workers. Private schools continued to be the smallest sector of this industry but still added 870 new jobs between 1975 and 1979.

The employment projections to 1982 indicate little growth will occur in educational services, with an expected annual increase of 0.3 percent. While new opportunities will be limited in this industry, the two major occupations of teacher, elementary and/or preschool and teacher, secondary school are expected to have a significant number of openings due to replacement of those who die, retire, or otherwise leave the labor force.

ANNUAL AVERAGE WAGE AND SALARY
EMPLOYMENT IN EDUCATIONAL SERVICES
MAINE, 1973-1980



The table below presents the percent distribution of establishments and employment by establishment size class for the educational services industry in Maine as of October 1979:

Establishment Size (No. of Employees)	Percent of Establishments	Percent of Employment
1- 19	43.7	4.8
20- 49	23.3	9.0
50- 99	11.4	8.9
100-249	14.7	34.0
250-499	4.9	21.1
500-999	1.2	4.8
1,000+	0.8	17.4

Employees in Maine's educational services industry received an annual average covered wage of $10,358 in 1980, an increase of nearly 6 percent over 1979 wage levels. Employees of public schools administered by the State averaged the highest salaries in 1980 receiving $12,282 annually. Public schools administered by local governments paid an annual average of $10,012 to employees in 1980. Private schools paid the lowest covered wage to its employees in 1980, an annual average of $9,897. The higher covered wage paid by State-administered schools reflects a larger number of post-secondary institutions where salaries normally tend to be higher than elementary and secondary schools which dominate the local government sector of educational services.

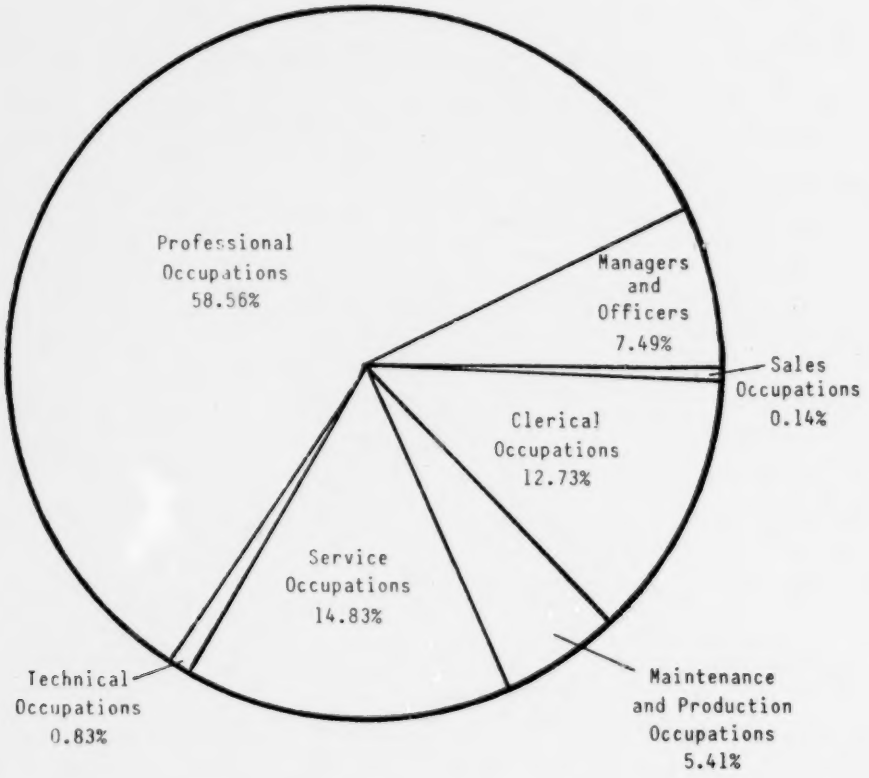
According to the Maine Department of Educational and Cultural Services, full-time elementary teachers in the public school system averaged $13,543 in the 1980-81 school year while secondary school teachers in this sector averaged $14,743 during this time period. Wages for all full-time professional workers in public schools averaged $14,462. All of these wages represent a 7 percent increase over the wages received during the prior school year.

The educational services industry employed 36,200 persons in October 1979. Nearly 60 percent of the workers in this industry were professionals. The two occupations with the largest employment were elementary and/or preschool teachers and secondary school teachers. Together they account for over 40 percent of total employment in this industry. Other specific occupations with significant employment were janitor, porter or cleaner; secretary; and teacher aide and/or educational assistant.

In descending order, the 10 most frequently reported occupations in this industry were janitor, porter, or cleaner; principal; teacher, elementary and/or preschool; secretary; superintendent; teacher aide and/or educational assistant; librarian, professional; cook, institution; teacher, secondary school; and bus driver, school.

Two-thirds of the total employment in this industry, or 24,310 workers, are concentrated in just 10 occupations. These occupations are identified in the bar graph on the following page.

PERCENTAGE OF EMPLOYMENT BY MAJOR OCCUPATIONAL CATEGORIES
IN EDUCATIONAL SERVICES (SIC 82)
OCTOBER 1979



OCCUPATIONS EMPLOYING THE LARGEST NUMBER OF WORKERS IN EDUCATIONAL SERVICES

EDUCATIONAL SERVICES

SIC 82

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	36,200	100.00	na	na
Managers and Officers	2,710	7.49	na	na
Principal	720	1.99	3	69
Assistant Principal	310	0.86	5	36
Superintendent	310	0.86	3	53
All Other Managers and Officers	1,370	3.78	na	na
Professional Occupations	21,200	58.56	na	na
Psychologist	30	0.08	16	6
Systems Analyst, Electronic Data Processing	10	0.03	10	1
Teacher, Secondary School	5,530	15.28	3	43
Teacher, College, Junior College, University, Professional School, or Technical Institute	840	2.32	11	7
Teacher and/or Instructor, Vocational Education or Training	220	0.61	20	8
Teacher and/or Instructor, Nonvocational Education	930	2.57	12	15
Vocational and Educational Counselor	420	1.16	4	34
Professor	450	1.24	5	5
Associate Professor	670	1.85	5	6
Assistant Professor	600	1.66	3	4
Lecturer	400	1.10	7	4
Athletic Coach	70	0.19	15	8
Teacher, Elementary and/or Preschool	8,770	24.23	2	67
All Other Teachers	470	1.30	5	29
Accountant and/or Auditor	20	0.06	11	5
Caseworker	70	0.19	12	9
Dietitian and/or Nutritionist	20	0.06	15	2
Librarian, Professional	340	0.94	3	49
Nurse, Professional	220	0.61	5	33
Personnel and Labor Relations Specialists	20	0.06	5	1
Physical Therapist	10	0.03	40	1
Physician and/or Surgeon	10	0.03	36	2
All Other Therapists	20	0.06	na	na
Speech Pathologist and/or Audiologist	210	0.58	5	34
Audio-Visual Specialist	40	0.11	21	7
Curriculum Specialist	60	0.17	15	11
All Other Professional Workers	750	2.07	na	na
Technical Occupations	300	0.83	na	na
Computer Programmer	20	0.06	14	4
Licensed Practical Nurse	20	0.06	41	2
Technical Assistant, Library	60	0.17	10	7
All Other Technical Workers	200	0.55	na	na

SIC 82 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Service Occupations	5,370	14.83	na	na
Supervisor, Nonworking	90	0.25	8	5
Janitor, Porter, or Cleaner	2,490	6.88	2	82
Guard or Doorkeeper	100	0.28	10	9
Baker, Bread and/or Pastry	80	0.22	17	7
Dining Room Attendant, Bartender Helper, or Cafeteria Attendant	40	0.11	39	2
Kitchen Helper	920	2.54	7	35
Counter Attendant, Lunchroom, Coffee Shop, or Cafeteria	460	1.27	16	13
Pantry, Sandwich, and/or Coffee Maker	70	0.19	15	3
Cook, Institution	820	2.27	7	43
All Other Food Service Workers	60	0.17	na	na
All Other Service Workers	240	0.66	na	na
Maintenance and Production Occupations	1,960	5.41	na	na
Supervisor, Nonworking	50	0.14	7	7
Mechanic, Automotive	70	0.19	15	9
All other Mechanics and Repairers	10	0.03	na	na
Carpenter	40	0.11	9	3
Electrician	20	0.06	8	3
Maintenance Repairer, General Utility	290	0.80	6	24
Helper, Trades	30	0.08	27	1
Painter, Maintenance	40	0.11	6	4
Stationary Boiler Firer	30	0.08	14	3
Gardener and/or Groundskeeper	120	0.33	12	10
Bus Driver, School	1,180	3.26	7	41
All Other Skilled Craft and Kindred Workers	40	0.11	na	na
All Other Operatives and Semiskilled Workers	30	0.08	na	na
All Other Laborers and Unskilled Workers	10	0.03	na	na
Clerical Occupations	4,610	12.73	na	na
Clerical Supervisor	20	0.06	6	2
Bookkeeping and/or Billing Machine Operator	30	0.08	32	4
Computer Operator	10	0.03	19	3
Keypunch Operator	20	0.06	12	2
All Other Office Machine Operators	10	0.03	na	na
Stenographer	130	0.36	5	2
Accounting Clerk	50	0.14	8	4
Bookkeeper, Hand	220	0.61	6	40
Cashier	30	0.08	20	3
File Clerk	10	0.03	23	2
General Clerk, Office	510	1.41	12	30
Library Assistant	300	0.83	6	27
Mail Clerk	20	0.06	8	3
Payroll/Timekeeping Clerk	20	0.06	8	3
Personnel Clerk	10	0.03	38	1
Receptionist	30	0.08	7	1
Secretary	1,510	4.17	4	65

SIC 82 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Switchboard Operator	30	0.08	23	2
Switchboard Operator/Receptionist	10	0.03	13	4
Typist	150	0.41	11	4
Teacher Aide and/or Educational Assistant	1,320	3.65	6	50
Admissions Evaluator	50	0.14	10	5
All Other Office Clerical Workers	60	0.17	na	na
Stock Clerk, Stockroom, Warehouse, or Storage Yard	50	0.14	10	6
All Other Plant Clerical Workers	10	0.03	na	na
Sales Occupations	50	0.14	na	na
Sales Clerks	50	0.14	13	2

METHODOLOGY

The Sample

A variety of sources were used to develop the sample of establishments to be covered by this OES survey of educational services. The National Center for Education Statistics (NCES), through the U.S. Bureau of Labor Statistics, supplied the sample for public and private elementary and secondary schools. This list of sample establishments was compared with the "Maine Educational Directory" published by the Maine Department of Educational and Cultural Services and suitably modified. The report of Employment, Wages, and Contributions covered by the Maine Employment Security Law was used as a sampling frame for the remainder of this survey, i.e., colleges, universities, professional schools and junior colleges; private libraries and information centers; correspondence and vocational schools; and schools and educational services not elsewhere classified.

This sample included 267 establishments of which 212 units, or 79.4 percent, responded.

The Survey

Two different methods were used to collect data from the various types of establishments included in this survey. Questionnaires similar to those used in other surveys in the Occupational Employment Statistics (OES) program were mailed to colleges, universities, professional schools, junior colleges, private libraries and information centers, correspondence schools and vocational schools, and specialized nondegree granting schools such as music schools, art schools, and schools providing automobile driving lessons and flying instruction. One follow-up mailing was sent to nonrespondents.

Much of the data that was needed from public and private elementary and secondary schools is routinely collected and stored in the "Staff Information System" by the Maine Department of Educational and Cultural Services. A computer produced questionnaire was developed, by school, which tapped into this information system and thus already included the employment for many of the occupations listed. This partially completed form was then mailed to the school which was asked to supply the number of workers it employs in those occupations not listed in the "Staff Information System." One follow-up mailing was sent to nonrespondents.

The Screening, Editing, and Estimating Procedure

Each completed questionnaire returned was edited and screened both manually and mechanically for consistency and accuracy. The resulting "clean data file" served as the basis for calculating estimates. The clean employer questionnaires were separated into seven size groups by industry, the size being determined by the number of persons employed by each. The reported total employment and occupational employment on each form was then multiplied by the weight, or the inverse of the sampling ratio, which had been assigned to it during sample selection. For public

and private elementary and secondary schools, these weights, by size class, had to be adjusted upwards to account for nonresponse. Occupational estimates for the remaining parts of this survey were calculated using the "ratio estimate" method which is used in the other surveys conducted by the OES program. The weighted data was tied into the universe employment, called the estimating benchmark, which came from the October 1979 ES-202 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law. The total weighted survey data by size class, by detailed industry, was divided into the universe data for corresponding size and industry classes. This produced benchmark factors which were applied to the occupational data, thus accounting for any nonresponding units and any new units which emerged after the sample had been drawn. The resulting occupational estimates were summed across size classes, then across detailed industry levels to the survey totals, rounded to the nearest ten, and published here. The percent of occupational distribution was then calculated.

Accuracy of Occupational Employment Data

There are two types of errors which affect the accuracy of the estimates published here--sampling and nonsampling errors. Sampling error is a specific arithmetic measure of the precision of an estimate. It is the difference between the estimate computed from the sample data and the result that would be obtained if the same methods were used to collect identical information from the entire population or universe.

The relative error entries listed in this report are the sampling errors of each occupation expressed as a percent of that occupational estimate. In other words, the chances are two out of three (a 68 percent confidence level) that the results of a comparable full-scale data collection (the universe) using the same survey approach would not differ by more than the percent error shown. The chances are 19 out of 20 (a 95 percent confidence level) that the results would not differ by more than twice the percent error shown. For example, it is estimated in this report that there are 340 professional librarians employed in the educational services industry with a 3 percent relative error. Thus, at a 68 percent confidence level, it is assured that the results of a full-scale count of professional librarians in this industry would not differ from this estimate by more than 10, or 340 times 3 percent.

Nonsampling errors result from external factors in a survey rather than from the fact that a sampling technique was used. Examples of these errors are response errors, processing errors, computational errors, etc. The possibility of these errors was recognized from the start of the survey and every effort was made to avoid them.

TECHNICAL NOTES

Data Presentation

If only one or two establishments reported a particular occupation, that occupational estimate is not shown in this publication, but has been added to the appropriate "All Other" residual category.

Rounding

Detail may not add to the estimated totals due to rounding.

Relative Error

The relative error was computed only for specific occupations and not for residual categories nor for occupational groupings. If the relative error of an occupational estimate exceeded 50 percent, the employment for that occupation was added to the residual category relevant to it. The relative error relates to the actual estimate before rounding. For an example of how the relative error is applied, see Accuracy of Occupational Data in the Methodology.

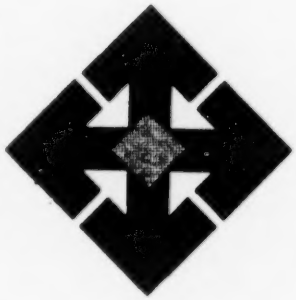
Percent of Establishments Reporting the Occupation

The percent of establishments reporting each occupation could not be readily calculated for groups of occupations, but only for specific occupations.

Abbreviations

na - not applicable
SIC - Standard Industrial Classifications
Empl. - Employment

The perceptual movement of the figure illustrates the two facets of research. Viewed one way, the four small arrows pointing to the central square represent the varied inputs to a research project. Viewed another way, the four large arrows pointing outward represent the widespread dissemination of the results of research.



Division of Economic Analysis and Research

For further information regarding this report, please call 207-289-2271.

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LABOR
MARKET
INFORMATION
Publication
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MAINE

OCCUPATIONAL STAFFING PATTERNS

For

Federal Government,

October 1980

State Government,

June 1979

And

Local Government,

May 1979

BUREAU OF EMPLOYMENT SECURITY
DIVISION OF ECONOMIC ANALYSIS AND RESEARCH 20 UNION STREET, AUGUSTA, ME 04330
A BUREAU OF THE MAINE DEPARTMENT OF LABOR

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MAINE OCCUPATIONAL STAFFING PATTERNS

FOR

FEDERAL GOVERNMENT, OCTOBER 1980

STATE GOVERNMENT, JUNE 1979

AND

LOCAL GOVERNMENT, MAY 1979

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PREFACE

We wish to express our thanks to all those who cooperated in filling out the questionnaire which supplied the necessary occupational employment data on which the estimates presented herein are based, and to the Maine Department of Personnel for making their files available for this purpose. This publication would not have been possible without their support.

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TABLE OF CONTENTS

	Page
INTRODUCTION.....	1
FEDERAL GOVERNMENT.....	3
STATE GOVERNMENT.....	8
LOCAL GOVERNMENT.....	12
GRAPH - Percent Distribution of Employment by Major Occupational Categories In Federal, State, and Local Government....	15
METHODOLOGY.....	17
TECHNICAL NOTES.....	19

INTRODUCTION

This publication is one of a continuing number of reports covering occupational employment for selected industries in Maine. The information in these reports relates to the first part of a "State Comprehensive Manpower Information System" which was defined and mandated in 1962 with the Manpower Development and Training Act, then the Vocational Education Act of 1963 and as amended in 1968, the Comprehensive Employment and Training Act of 1973, and again with the Vocational Education Act Amendments of 1976. This federal legislation, coupled with the rapidly expanding awareness of the public of the need for more vocational training, has resulted in an unparalleled demand for current data on employment by occupation and for projections of future employment requirements by occupation.

The Occupational Employment Statistics (OES) Program has emerged as the System which is expected to supply much of the data leading to a "State Comprehensive Manpower Information System." This program is a federal-state endeavor involving many state employment security agencies throughout the nation in conjunction with the Employment and Training Administration and the Bureau of Labor Statistics. This Occupational Employment Statistics Program consists of three distinct, yet integral components: survey operations, industry-occupation matrix, and projections.

The first part of the OES program consists primarily of collecting occupational employment data by industry through a survey questionnaire mailed to a sample of establishments throughout the State. The sample data received is expanded to statewide totals by industry, using a system of weights and benchmark factors, thus producing staffing patterns which can be applied to current or projected estimates of industrial employment for the State or for areas within the State to produce current or projected occupational estimates. However, the surveys for federal and state government presented in this publication consisted of a total count of employees. Please see the section on methodology for a further explanation on collection techniques.

This publication, a direct result of the survey phase of the OES program, contains the staffing patterns for federal, state, and local government. The actual employment data was collected as of October 1980 for federal government, the week of the 12th of June 1979 for state government, and the week of the 12th of May 1979 for local government.

Other booklets have already been published covering nearly all wage and salary workers in Maine. Approximately one-third of the State's industries will be surveyed each year, so that the entire economy will be covered every three years. Using this cycle, employers are asked to provide occupational data only once every three years insuring that no part of the data is over three years old, and that significant changes in the staffing patterns of industries can be identified early, as the trend develops.

The information obtained from these surveys will be used in the second phase of the OES Program to construct industry-occupation matrices covering all sectors of our economy. these matrices, in turn, will provide the data that will be used to project occupational requirements and will be one of the basic ingredients of the "Comprehensive Manpower Information System.

FEDERAL GOVERNMENT

Occupation	Estimated Employment	Percent of Total Employment
TOTAL ALL OCCUPATIONS	8,979	100.00
Managers and Officers	1,376	15.32
Public Administration Inspectors, except Construction	417	4.64
Construction Inspector	25	0.28
Postmaster and/or Mail Superintendent	470	5.23
All Other Managers	464	5.17
Professional Occupations	1,068	11.89
Agricultural Engineer	1	0.01
Civil Engineer	28	0.31
Electrical and Electronic Engineer	14	0.16
Industrial Engineer	2	0.02
Mechanical Engineer	15	0.17
Safety Engineer	1	0.01
Nuclear Engineer	2	0.02
All Other Engineers	17	0.19
Financial Analyst	1	0.01
Statistician	1	0.01
Chemist	3	0.03
Geologist and Geophysicist	17	0.19
Meteorologist	13	0.14
Physicist	2	0.02
Agricultural Scientist	20	0.22
Biological Scientist	23	0.26
Forester and Conservation Scientist	45	0.50
Economist	3	0.03
Psychologist	15	0.17
Urban and Regional Planner	1	0.01
Systems Analyst, Electronic Data Processing	8	0.09
Teacher and/or Instructor, Nonvocational Education	11	0.12
Photographer	2	0.02
Purchasing Agent and/or Buyer	50	0.56
Accountant and/or Auditor	45	0.50
Architect	8	0.09
Caseworker	24	0.27
Clergy	5	0.06
Commercial Artist	1	0.01
Dentist	5	0.06
Dietition and/or Nutritionist	6	0.07
Writer and/or Editor	1	0.01
Law Clerk	10	0.11
Lawyer	18	0.20

FEDERAL GOVERNMENT (cont.)

Occupation	Estimated Employment	Percent of Total Employment
Professional Occupations (continued)		
Librarian, Professional	5	0.06
Nurse, Professional	201	2.24
Paralegal Personnel	1	0.01
Personnel and Labor Relations Specialist	41	0.46
Pharmacist	8	0.09
Physical Therapist	5	0.06
Occupational Therapist	4	0.04
Corrective Therapist	6	0.07
Manual Arts, Music, and/or Recreational Therapist	5	0.06
All Other Therapists	1	0.01
Physician and/or Surgeon	79	0.88
Public-Relations Practitioner	2	0.02
Veterinarian	13	0.14
Judge	5	0.06
Tax Examiner, Collector and/or Revenue Agent	90	1.00
Appraiser, Real Estate	4	0.04
Group Recreation Worker	1	0.01
All Other Professional Workers	179	1.99
Technical Occupations	531	5.91
Computer Programmer	3	0.03
Drafter	4	0.04
Electrical and Electronic Technician	105	1.17
Surveyor	4	0.04
Broadcast Technician	12	0.13
All Other Engineering Technicians	31	0.35
Physical Science Technician	23	0.26
Biological Science Technician	123	1.37
Air Traffic Controller	77	0.86
Dental Assistant	8	0.09
Physician's Assistant	6	0.07
Airplane Pilot	14	0.16
Technical Assistant, Library	2	0.02
Pharmacy Helper	6	0.07
Medical Record Librarian	2	0.02
Dental Hygienist	2	0.02
Medical Laboratory Technologist	20	0.22
Radiologic Technologist and/or Nuclear Medical Technologist	11	0.12
Prosthetist-Orthotist	2	0.02
Electrocardiograph Technician	11	0.12
All Other Medical and Dental Technicians and Technologists	19	0.21
All Other Technical Workers	46	0.51

FEDERAL GOVERNMENT (cont.)

Occupation	Estimated Employment	Percent of Total Employment
Service Occupations	642	7.15
Janitor, Porter, or Cleaner	91	1.01
Guard or Doorkeeper	40	0.45
Butcher and/or Meat Cutter	13	0.14
Cook, Institution or Cafeteria	17	0.19
All Other Food Service Workers	116	1.29
Barber	3	0.03
Housekeeper	2	0.02
Nurse Aide and/or Orderly	183	2.04
Fish and Game Warden	3	0.03
Social Service Aide	2	0.02
Occupational Therapy Assistant	4	0.04
Police and Detective Supervisor	23	0.26
Detective, Police	31	0.35
U.S. Marshall	9	0.10
Fire Fighter	105	1.17
Maintenance and Production Occupations	1,197	13.33
Supervisor, Nonworking	8	0.09
Mechanic, Aircraft	82	0.91
Mechanic, Automotive	39	0.43
Body Repairer, Automotive	3	0.03
Electric Tool Repairer	1	0.01
Electromedical Equipment Repairer	3	0.03
Engineering Equipment Mechanic	47	0.52
Locksmith	3	0.03
Mechanic, Maintenance	94	1.05
Refrigeration Mechanic and/or Air Conditioning Mechanic	12	0.13
Electronic Mechanic	39	0.43
Gas and Electric Appliance Repairer	2	0.02
All Other Mechanics and Repairers	17	0.19
Marker, Classifier, Wet Wash Assembler, Detacher, and/or Checker	13	0.14
Washer, Machine and/or Starcher	5	0.06
Dry Cleaning Machine Operator	1	0.01
Laundry Presser, Machine	1	0.01
Truck Driver	45	0.50
Cabinetmaker	4	0.04
Cable Splicer	6	0.07
Carpet Cutter and/or Carpet Layer	2	0.02
Carpenter	57	0.63
Conductor, Train	2	0.02
Crane, Derrick, or Hoist Operator	6	0.07
Crater	3	0.03
Electrician	48	0.53
Exterminator	3	0.03
Heavy Equipment Operator	39	0.43

FEDERAL GOVERNMENT (cont.)

Occupation	Estimated Employment	Percent of Total Employment
Maintenance and Production Occupations (continued)		
Industrial Truck Operator	15	0.17
Inspector	13	0.14
Installer Repairer and/or Section Maintainer, Telephone	4	0.04
Line Installer-Repairer	1	0.01
Maintenance Repairer, General Utility	59	0.66
Painter, Maintenance	42	0.47
Plumber and/or Pipefitter	47	0.52
Production Packager, Hand or Machine	1	0.01
Roofer	1	0.01
Dental Laboratory Technician	2	0.02
Sewage Plant Operator	6	0.07
Sewing Machine Operator, Regular Equipment--Garment	4	0.04
Sheet Metal Worker	10	0.11
Stationary Engineer	21	0.23
Stationary Boiler Firer	58	0.65
Stonemason	5	0.06
Tile Setter	1	0.01
Water Treatment Plant Operator	9	0.10
Welder and/or Flamecutter	7	0.08
Offset Lithographic Press Operator, Sheet, Roll or Web Fed	5	0.06
Platemaker	1	0.01
Service Station Attendant, Fuel Pump Attendant and/or Lubricator	7	0.08
Furniture Finisher	2	0.02
Machine Tool Operator, Combination	5	0.06
Tester	1	0.01
Bindery Worker	1	0.01
Gardener and Groundskeeper	6	0.07
All Other Skilled Craft and Kindred Workers	5	0.06
All Other Operatives and Semiskilled Workers	50	0.56
All Other Laborers and Unskilled Workers	223	2.48
Clerical Occupations	4,121	45.90
Clerical Supervisor, Office or Plant	6	0.07
Computer Operator	15	0.17
Keypunch Operator	15	0.17
Tabulating Machine Operator	2	0.02
All Other Office Machine Operators	3	0.03
Stenographer	44	0.49
Accounting Clerk	75	0.84
Bookkeeper, Hand	7	0.08

FEDERAL GOVERNMENT (cont.)

Occupation	Estimated Employment	Percent of Total Employment
Clerical Occupations (continued)		
Cashier	10	0.11
Claim Adjuster	19	0.21
Claims Clerk	67	0.75
General Clerk, Office	404	4.50
Mail Clerk	33	0.37
Payroll and/or Timekeeping Clerk	14	0.16
Personnel Clerk	39	0.43
Procurement Clerk	9	0.10
Real Estate Clerk	4	0.04
Secretary	118	1.31
Statistical Clerk	5	0.06
Switchboard Operator	22	0.25
Messenger	3	0.03
Travel Clerk	2	0.02
Typist	205	2.28
Postal Service Clerk	726	8.09
All Other Office Clerical Workers	118	1.31
Production Clerk and/or Coordinator	47	0.52
Shipping Packer	2	0.02
Shipping and/or Receiving Clerk	11	0.12
Stock Clerk, Stockroom, Warehouse, or Storage Yard	3	0.03
Postal Mail Carrier	1,997	22.24
All Other Plant Clerical Workers	96	1.07
Sales Occupations	44	0.49
Sales Clerk	44	0.49

STATE GOVERNMENT

Occupation	Estimated Employment	Percent of Total Employment
TOTAL ALL OCCUPATIONS	12,315	100.00
Managers and Officers	1,387	11.26
Chief Executives, General Administrators and Legislators	186	1.51
Construction Inspector	5	0.04
Public Administration Inspectors, Except Construction	336	2.73
All Other Managers and Officers	860	6.98
Professional Occupations	2,799	22.73
Civil Engineer	187	1.52
Mechanical Engineer	1	0.01
Safety Engineer	1	0.01
All Other Engineers	7	0.06
Mathematical Scientist	3	0.02
Chemist	23	0.19
Geologist and Geophysicist	18	0.15
All Other Physical Scientists	4	0.03
Biological Scientist	82	0.67
Forester and Conservation Scientist	36	0.29
All Other Life Scientists	52	0.42
Economist	37	0.30
Psychologist	15	0.12
Sociologist	1	0.01
Urban and Regional Planner	16	0.13
All Other Social Scientists	3	0.02
Systems Analyst, Electronic Data Processing	66	0.54
Vocational and Educational Counselor	224	1.82
Photographer	6	0.05
Purchasing Agent and/or Buyer	12	0.10
Accountant and/or Auditor	185	1.50
Landscape Architect	6	0.05
Architect	2	0.02
Budget Analyst	6	0.05
Caseworker	429	3.48
Commercial Artist	3	0.02
Dietitian and/or Nutritionist	7	0.06
Employment Interviewer	95	0.77
Law Clerk	27	0.22
Lawyer	119	0.97
Librarian, Professional	38	0.31
Nurse, Professional	143	1.16
Occupational Therapist	8	0.06
Paralegal Personnel	3	0.02
Personnel and Labor Relations Specialist	33	0.27

STATE GOVERNMENT (cont.)

Occupation	Estimated Employment	Percent of Total Employment
Professional Occupations (continued)		
Physical Therapist	7	0.06
Physician and/or Surgeon	8	0.06
Public Relations Practitioner	19	0.15
Veterinarian	7	0.06
Community Organization Worker	17	0.14
Welfare Investigator	19	0.15
Judge	42	0.34
Tax Examiner, Collector and/or Revenue Agent	69	0.56
Assessor	41	0.33
All Other Therapists	3	0.02
Group Recreation Worker	3	0.02
Speech Pathologist and/or Audiologist	7	0.06
Claims Taker, Unemployment Benefits	86	0.70
All Other Professional Workers	573	4.65
Technical Occupations	641	5.21
Computer Programmer	27	0.22
Drafter	6	0.05
Electrical and Electronic Technician	1	0.01
All Other Engineering Technicians	459	3.73
Science Technician	31	0.25
Physician's Assistant	1	0.01
Licensed Practical Nurse	26	0.21
Radio Operator	43	0.35
Medical and Dental Technician	26	0.21
All Other Technical Workers	21	0.17
Service Occupations	1,904	15.46
Supervisor, Nonworking	27	0.22
Police and Detective Supervisor	69	0.56
Police Patrol Officer	261	2.12
Correction Officer and/or Jailer	231	1.88
Janitor, Porter, or Cleaner	229	1.86
Guard and Doorkeeper	27	0.22
Cook, Institution	34	0.28
All Other Food Service Workers	19	0.15
Nurse Aide and/or Orderly	25	0.20
Recreation Facility Attendant	91	0.74
Forest Conservation Worker	136	1.10
Fish and Game Warden	167	1.36
Child-Care Worker	12	0.10
Social Service Aide	58	0.47
All Other Service Workers	518	4.21
Maintenance and Production Occupations	2,426	19.70
Supervisor, Nonworking	275	2.23
Mechanic, Automotive	175	1.42
Mechanic, Maintenance	36	0.29
Diesel Mechanic	9	0.07

STATE GOVERNMENT (cont.)

Occupation	Estimated Employment	Percent of Total Employment
Maintenance and Production Occupations (continued)		
Radio Mechanic	11	0.09
All Other Mechanics and Repairers	12	0.10
Truck Driver	16	0.13
Bus Driver	2	0.02
Carpenter	44	0.36
Compositor and/or Typesetter	1	0.01
Electrician	18	0.15
Heavy Equipment Operator	16	0.13
Instrument Repairer	1	0.01
Machinist	3	0.02
Maintenance Repairer, General Utility	8	0.06
Painter, Maintenance	17	0.14
Plumber and/or Pipefitter	6	0.05
Stationary Engineer	9	0.07
Stationary Boiler Firer	21	0.17
Highway Maintenance Repairer	1,247	10.13
Gardener and Groundskeeper	7	0.06
All Other Skilled Craft and Kindred Workers	58	0.47
All Other Operatives and Semiskilled Workers	114	0.93
All Other Laborers and Unskilled Workers	320	2.60
Clerical Occupations	3,027	24.58
Clerical Supervisor, Office or Plant	78	0.63
Bookkeeping and/or Billing Machine Operator	19	0.15
Computer Operator	34	0.28
Keypunch Operator	109	0.89
Duplicating Machine Operator	18	0.15
All Other Office Machine Operators	1	0.01
Stenographer	306	2.48
Accounting Clerk	133	1.08
Cashier	169	1.37
File Clerk	2	0.02
General Clerk, Office	317	2.57
Library Assistant	11	0.09
Mail Clerk	10	0.08
Personnel Clerk	1	0.01
Receptionist	1	0.01
Secretary	86	0.70
Statistical Clerk	2	0.02
Switchboard Operator	18	0.15
Switchboard Operator--Receptionist	3	0.02
Messenger	8	0.06
Typist	1,022	8.30
Eligibility Worker, Welfare	237	1.92

STATE GOVERNMENT (cont.)

Occupation	Estimated Employment	Percent of Total Employment
Clerical Occupations (continued)		
Court Clerk	202	1.64
License Clerk	76	0.62
All Other Office Clerical Workers	86	0.70
Shipping and/or Receiving Clerk	21	0.17
Stock Clerk	50	0.41
Dispatcher, Vehicle, Service or Work	6	0.05
All Other Plant Clerical Workers	1	0.01
Sales Occupations	131	1.06
Sales Clerk	131	1.06

LOCAL GOVERNMENT

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	16,380	100.00	na	na
Managers and Officers	2,780	16.97	na	na
Public Administration Inspector, except Construction	90	0.55	14	10
Construction Inspector	170	1.04	10	25
Chief Executive, General Administrator, or Legislator	1,380	8.42	4	69
All Other Managers and Officers	1,140	6.96	4	69
Professional Occupations	1,700	10.38	na	na
Civil Engineer	110	0.67	11	16
All Other Engineers	20	0.12	na	na
Natural Scientists	10	0.06	na	na
Urban and Regional Planner	100	0.61	25	8
Purchasing Agent and/or Buyer	10	0.06	10	2
Accountant and/or Auditor	80	0.49	12	12
Caseworker	60	0.37	7	4
Commercial Artist	10	0.06	36	2
Lawyer	30	0.18	13	6
Librarian, Professional	110	0.67	9	13
Nurse, Professional	40	0.24	17	6
Paralegal Personnel	10	0.06	26	2
Personnel and/or Labor Relations Specialist	10	0.06	12	3
Physician and/or Surgeon	10	0.06	28	3
Community Organization Worker	30	0.18	28	4
Welfare Investigator	20	0.12	13	5
Judge	10	0.06	24	4
Magistrate	20	0.12	38	2
Tax Examiner, Collector and/or Revenue Agent.	240	1.47	8	31
Assessor	500	3.05	8	41
Group Recreation Worker	230	1.40	8	15
All Other Professional Workers	40	0.24	na	na
Technical Occupations	170	1.04	na	na
Computer Programmer	10	0.06	6	2
Drafter	30	0.18	28	3
Surveyor	10	0.06	31	3
Civil Engineering Technician	20	0.12	5	2
All Other Engineering Technicians	10	0.06	na	na
Science Technician	10	0.06	28	2
Technical Assistant, Library	70	0.43	8	4
All Other Technical Workers	10	0.06	na	na

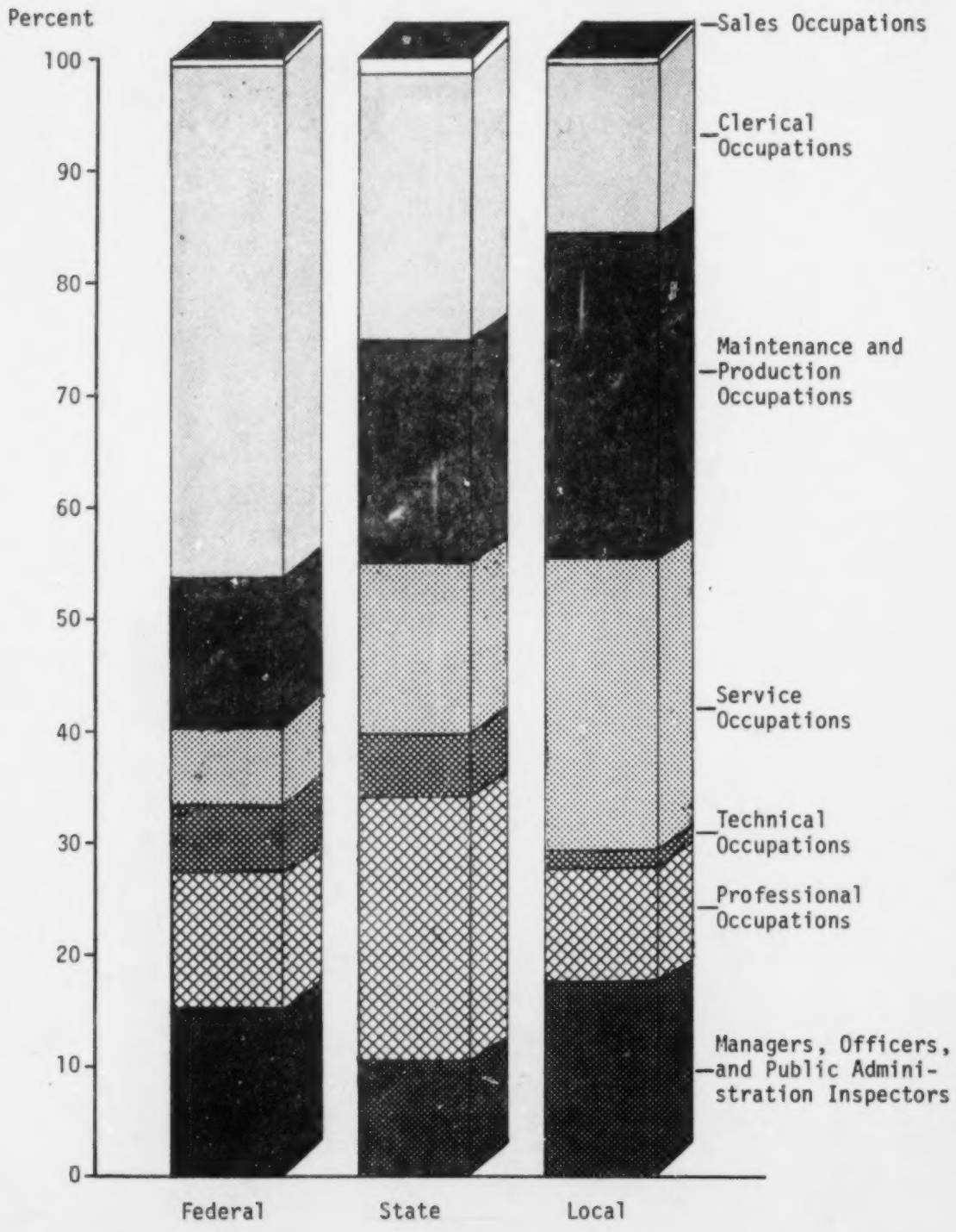
LOCAL GOVERNMENT (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Service Occupations	4,500	27.47	na	na
Supervisor, Nonworking	30	0.18	11	2
Janitor, Porter, or Cleaner	410	2.50	6	34
Guard or Doorkeeper	20	0.12	14	1
Kitchen Helper	30	0.18	3	2
Cook, Institution	40	0.24	23	4
All Other Food Service Workers	30	0.18	na	na
Recreation Facility Attendant	90	0.55	11	4
Forest Conservation Worker	10	0.06	14	1
School Crossing Guard	300	1.83	7	15
Social Service Aide	10	0.06	19	1
Police and Detective Supervisor	320	1.95	4	28
Detective, Police	70	0.43	5	9
Police Patrol Officer	1,420	8.67	3	42
Parking Enforcement Officer	40	0.24	15	6
Correction Officer and/or Jailer	170	1.04	21	4
Sheriff	120	0.73	28	11
Bailiff	20	0.12	22	4
Fire Fighting and Prevention Supervisor	280	1.71	6	8
Fire Inspector	10	0.06	14	2
Fire Fighter	860	5.25	5	16
All Other Service Workers	220	1.34	na	na
Maintenance and Production Occupations	4,610	28.14	na	na
Supervisor, Nonworking	150	0.92	11	19
Mechanic, Automotive	80	0.49	5	8
Diesel Mechanic	40	0.24	33	2
Engineering Equipment Mechanic	20	0.12	9	2
Mechanic, Maintenance	40	0.24	19	6
Treatment Plant Mechanic	20	0.12	14	3
All Other Mechanics and Repairers	40	0.24	na	na
Truck Driver	350	2.14	7	13
Carpenter	40	0.24	19	4
Electrician	20	0.12	22	2
Heavy Equipment Operator	290	1.77	8	21
Maintenance Repairer, General Utility	470	2.87	9	24
Helper, Trades	140	0.85	11	2
Painter, Maintenance	30	0.18	20	3
Pipelayer	70	0.43	33	2
Plumber and/or Pipefitter	10	0.06	45	1
Refuse Collector	100	0.61	9	10
Sewage Plant Operator	250	1.53	11	20
Animal Caretaker	10	0.06	10	3
Water Treatment Plant Operator	110	0.67	22	8
Pump Station Operator, Waterworks	30	0.18	19	3

LOCAL GOVERNMENT (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occupations (cont.)				
Welder and/or Flamecutter	10	0.06	10	1
Service Station Attendant, Fuel Pump Attendant and/or Lubricator	10	0.06	8	1
Highway Maintenance Repairer	1,310	8.00	5	49
Surveyor Helper	10	0.06	27	3
Gardener and/or Groundskeeper	380	2.32	11	20
Bus Driver, School	20	0.12	38	2
Ambulance Driver and/or Attendant	160	0.98	15	6
All Other Skilled Craft and Kindred Workers	30	0.18	na	na
All Other Operatives and Semiskilled Workers	130	0.79	na	na
All Other Laborers and Unskilled Workers	240	1.47	na	na
Clerical Occupations	2,610	15.93	na	na
Clerical Supervisor, Office or Plant	20	0.12	7	1
Bookkeeping and/or Billing Machine Operator	20	0.12	13	4
Computer Operator	20	0.12	9	5
Keypunch Operator	10	0.06	9	2
Duplicating Machine Operator	10	0.06	12	2
Accounting Clerk	120	0.73	8	14
Bookkeeper, Hand	190	1.16	10	28
Cashier	50	0.31	4	3
File Clerk	30	0.18	22	2
General Clerk, Office	340	2.08	9	33
Library Assistant	140	0.85	10	9
Payroll and/or Timekeeping Clerk	60	0.37	3	6
Receptionist	10	0.06	27	2
Secretary	380	2.32	6	36
Statistical Clerk	10	0.06	24	2
Switchboard Operator/Receptionist	10	0.06	36	3
Typist	260	1.59	9	18
Eligibility Worker, Welfare	20	0.12	12	4
Town Clerk	350	2.14	5	54
License Clerk	30	0.18	22	5
All Other Office Clerical Workers	50	0.31	na	na
Meter Reader, Utilities	30	0.18	30	4
Stock Clerk, Stockroom, Warehouse, or Storage Yard	20	0.12	15	4
Dispatcher, Vehicle, Service or Work	30	0.18	15	3
Dispatcher, Police, Fire, and Ambulance	390	2.38	7	27
All Other Plant Clerical Workers	10	0.06	na	na
Sales Occupations	10	0.06	na	na
Sales Clerk	10	0.06	17	1

PERCENT DISTRIBUTION OF EMPLOYMENT
BY MAJOR OCCUPATIONAL CATEGORIES
IN FEDERAL, STATE, AND LOCAL GOVERNMENTS



METHODOLOGY

Federal Government

The occupational employment data for this survey was sent to the Maine Department of Labor, Bureau of Employment Security by the U.S. Bureau of Labor Statistics. The data was taken from the Central Personnel Data System (CPDS) maintained by the Office of Personnel Management (OPM). All data was converted into the Occupational Employment Statistics (OES) occupational classification system.

The data represented in this publication include full-time temporary, full-time permanent, part-time temporary and part-time permanent employees on the federal payroll who were paid in the State of Maine as of October 1980, including workers employed in federal hospitals. Because this represents a total count, or census, the figures were not rounded, and there was no relative error since the data was not estimated from a sample.

State Government

The Maine Department of Labor, Bureau of Employment Security received from the State Department of Personnel an "employee file" which lists all classified persons employed by the State of Maine and most of the unclassified positions. This file is updated constantly. The data represented in this publication are as of the week of June 12, 1979. From this file, all employees in the executive branch of state government were tallied except those employed in hospitals or educational services. Information to supplement this file was collected from all other state government units in the judicial and legislative branches, the Maine Turnpike Authority, and the Department of Transportation for their outstationed work crews, which are not included in the employee file. The State has approximately 1,200 different job titles, all of which had to be converted to the Occupational Employment Statistics (OES) occupational classification system.

Since the data in this publication represent a total count, or census, the figures were not rounded, and there was no relative error since the data were not estimated from a sample.

Local Government

The United States Department of Labor, Bureau of Labor Statistics provided the State of Maine with the 1977 Census of Local Governments. This census was then updated with lists of active municipal or quasi-municipal units, as of 1979, such as Regional Planning Commissions, Maine Water Utilities, Sewer Districts, Electric Utilities, Soil and Water Conservation Districts, and Housing Authorities. This final list, or sampling frame, consisted of 693 units from which a sample of 302 units was drawn. This represented 43.6 percent of total local government units.

This survey consisted of an initial mailing and two follow-up mailings to nonrespondents. Occupational data was requested for the week of May 12,

1979. Phone calls and personal visits were made to those units whose responses were considered critical for valid estimates. Usable responses were received from 249 units or 82.5 percent of the sample.

Each completed questionnaire returned was edited and screened both manually and mechanically for consistency and accuracy. The resulting "clean data file" served as the basis for estimating total occupational employment. The "clean employer questionnaires were separated into seven size groups, according to the number of persons employed by each. The reported total employment and occupational employment on each form was then multiplied by the weight which had been assigned to it during sample selection. This data was then inflated to total local government employment for May 1979 based on our Current Employment Statistics (CES) program. This was accomplished by dividing the total weighted survey data by size class into the universe data by correponding size classes, thus producing benchmark factors. These factors were applied to the occupational data to account for nonresponding units and new units which emerged after the sample had been drawn. The resulting occupational estimates were summed across size classes and rounded to the nearest ten. The percent of occupational distribution for local government was then calculated.

Accuracy of Occupational Employment Data

There are two types of errors which affect the accuracy of the estimates published here--sampling and nonsampling errors. Sampling error is a specific arithmetic measure of the precision of an estimate. It is the difference between the estimate computed from the sample data and the result that would be obtained if the same methods were used to collect identical information from the entire population or universe. The relative error entries listed in this report are the sampling errors of each occupation expressed as a percent of that occupational estimate. In other words, relative error means that the chances are two out of three (a 68 percent confidence level) that the results of a comparable full-scale data collection (the universe) using the same survey approach would not differ by more than the percent error shown. The chances are 19 out of 20 (a 95 percent confidence level) that the results would not differ by more than twice the percent error shown. For example, it is estimated in this report that there are 1,420 police patrol officers in local government with a 3 percent relative error. Thus, at a 68 percent confidence level, it is assured that the results of a full-scale count of police patrol officers in this industry would not differ from this estimate by more than 43, i.e., 1,420 times 3 percent. At a 95 percent confidence level, the universe count would not differ from the estimate by more than 6 percent of 1,420, or 85 workers.

Nonsampling errors result from external factors in a survey rather than from the fact that a sampling technique was used. Examples of these errors are: response errors, processing errors, computational errors, etc. The possibility of these errors was recognized from the start of the survey and every effort was made to avoid them.

TECHNICAL NOTES

Estimated Employment

Total estimated employment in federal government includes all temporary and permanent employees on the federal payroll who were paid in the State of Maine as of October 1980, including workers employed in federal hospitals, as maintained by the Office of Personnel Management, U.S. Bureau of Labor Statistics.

Total estimated employment in state government includes employment in all state government units as of June 1979 except workers in state operated hospitals, or educational services such as elementary and secondary schools, vocational high schools, universities, colleges, junior colleges, and technical institutes.

Total estimated employment in local government includes employment in all municipal or quasi-municipal units as of May 1979 except local government owned hospitals, elementary and secondary schools, vocational high schools, universities, colleges, junior colleges and technical institutes.

Rounding

Detail may not add to the estimated totals due to rounding.

Relative Error

The relative errors listed for local government occupational employment were computed only for specific occupations and not for residual categories nor for occupational groupings. If the relative error of an occupational estimate exceeded 50 percent, the employment for that occupation was added to the residual category relevant to it. The relative error relates to the actual estimate before rounding. For an example of how the relative error is applied, see Accuracy of Occupational Data in the Methodology section.

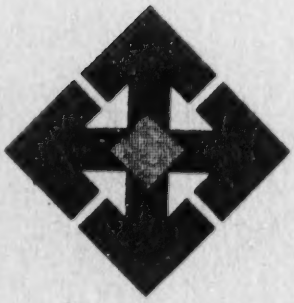
Percent of Establishments Reporting the Occupation

The percent of local government establishments reporting each occupation could not be readily calculated for groups of occupations, but only for specific occupations.

Abbreviations

na - not applicable
Empl. - Employment

The perceptual movement of the figure illustrates the two facets of research. Viewed one way, the four small arrows pointing to the central square represent the varied inputs to a research project. Viewed another way, the four large arrows pointing outward represent the widespread dissemination of the results of research.



DIVISION OF ECONOMIC ANALYSIS AND RESEARCH

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LABOR
MARKET
INFORMATION

Publication
Series No. OES-17

MAINE

OCCUPATIONAL

STAFFING PATTERN

For

HOSPITALS

Data for April 1980

BUREAU OF EMPLOYMENT SECURITY
DIVISION OF ECONOMIC ANALYSIS AND RESEARCH 20 UNION STREET, AUGUSTA, ME 04330
A BUREAU OF THE MAINE DEPARTMENT OF LABOR

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MAINE OCCUPATIONAL STAFFING PATTERN

FOR

HOSPITALS

APRIL 1980

This labor market information is developed through a cooperative program with the U.S. Bureau of Labor Statistics and is funded by the U.S. Employment and Training Administration

DIVISION OF ECONOMIC ANALYSIS AND RESEARCH
Ray A. Fongemie, Director

Occupational Outlook and Job Information Section, Ronald R. Leonard, Chief

ISSUED OCTOBER 1981

AUGUSTA, MAINE

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PREFACE

We wish to express our thanks to all the hospitals which supplied the necessary occupational employment data on which the estimates presented herein are based, and to the Maine Department of Personnel for making their files available for this purpose. This publication would not have been possible without their cooperation.

We also wish to extend our thanks to the U.S. Department of Labor, both in Washington, D.C. and the regional level in Boston, Massachusetts, for their assistance in this federal-state cooperative effort.

TABLE OF CONTENTS

	Page
INTRODUCTION	1
HOSPITALS	3
NOTES ABOUT THE TABLE	7
METHODOLOGY	9

INTRODUCTION

This publication is one of a continuing number of reports covering occupational employment for selected industries in Maine. The information in these reports relates to the first part of a "State Comprehensive Manpower Information System" which was defined and mandated by the Manpower Development and Training Act in 1962, the Vocational Education Act of 1963 and as amended in 1968, the Comprehensive Employment and Training Act of 1973, and the Vocational Education Act Amendments of 1976. This federal legislation, coupled with the rapidly expanding public awareness of the need for more vocational training, has resulted in an unparalleled demand for current employment data and projections of future employment requirements by occupation.

The Occupational Employment Statistics (OES) Program has emerged as the system which is expected to supply much of the data leading to a "State Comprehensive Manpower Information System." This program is a federal-state endeavor involving many state employment security agencies throughout the nation in conjunction with the Employment and Training Administration and the Bureau of Labor Statistics. This OES program consists of three distinct, yet integral components: survey operations, industry-occupation matrices, and projections.

The first part of the OES program consists primarily of collecting occupational employment data by industry through a survey questionnaire mailed to a sample of establishments throughout the State. The sample data received is expanded, using a system of weights and benchmark factors, to produce statewide staffing patterns for the industry. These staffing patterns can then be applied to current or projected estimates of industrial employment to produce estimates of employment by occupation for the State or substate areas.

This publication, a direct result of the survey phase of the OES program, contains the staffing pattern for hospitals. The actual employment data was collected for the week of the 12th of April 1980.

Other booklets have already been published covering nearly all wage and salary workers in Maine. Approximately one-third of the State's industries will be surveyed each year, so that the entire economy will be covered every three years. Using this cycle, employers are asked to provide occupational data only once every three years. This insures that no part of the data is over three years old, and that significant changes in the staffing patterns of industries can be identified early, as the trend develops.

The information obtained from these surveys will be used in the second phase of the OES program to construct industry-occupation matrices covering all sectors of our economy. These matrices, in turn, will provide the data that will be used to project occupational requirements and will be one of the basic ingredients of the "Comprehensive Manpower Information System."

HOSPITALS

Private, state, and municipal hospitals are all included in this survey. The only exclusion is the U.S. Veterans Administration Hospital at Togus.

There were 20,060 workers employed in these hospitals in April 1980. Although there are 102 specific occupations identified in this report, over half of the total employment, 56 percent, is concentrated in just eight occupations. They are as follows:

Occupational Title	Employment	Percent of Total Employment
Nurse, Professional	4,170	20.8%
Nurse Aide and/or Orderly	2,400	12.0
Licensed Practical Nurse	1,760	8.8
Maid	940	4.7
Managers and Officers	640	3.2
Psychiatric Aide	510	2.5
Secretary	440	2.2
Kitchen Helper	410	2.0
TOTAL	11,270	56.2

At least 75 percent of all responding units reported employment in the following eleven occupations:

Occupational Title	Percent of usable units reporting the occupation
Licensed Practical Nurse	98%
Nurse Aide and/or Orderly	94
Nurse, Professional	94
Maid	92
Cook, Institution or Cafeteria	90
Managers and Officers	90
Pharmacist	81
Medical Laboratory Technologist	77
Medical-Record Librarian	77
Caseworker	75
Radiologic Technician	75

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	20,060	100.00	na	na
Managers and Officers	640	3.19	3	90
Professional Occupations	5,670	28.27	na	na
Mechanical Engineer	10	0.05	11	13
All Other Engineers	10	0.05	na	na
Medical Scientist	20	0.10	6	12
Psychologist	30	0.15	6	10
Systems Analyst, Electronic Data Processing	20	0.10	3	10
Purchasing Agent and/or Buyer	50	0.25	3	67
Accountant and/or Auditor	70	0.35	3	58
Caseworker	180	0.90	2	75
Clergy	20	0.10	8	21
Dentist	10	0.05	0	6
Dietitian and/or Nutritionist	50	0.25	3	58
Librarian, Professional	50	0.25	4	50
Nurse, Professional	4,170	20.79	1	94
Occupational Therapist	30	0.15	4	21
Personnel and/or Labor Relations Specialist	50	0.25	3	54
Pharmacist	110	0.55	2	81
Physical Therapist	110	0.55	3	71
Physician and/or Surgeon	350	1.74	2	50
Manual-Arts, Music and/or Recreational Therapist	10	0.05	6	13
Speech Pathologist and/or Audiologist	20	0.10	7	12
Respiratory Therapist	150	0.75	3	54
All Other Therapists	20	0.10	na	na
All Other Professional Workers	130	0.65	na	na
Technical Occupations	4,000	19.94	na	na
Computer Programmer	20	0.10	6	21
Electrical and/or Electronic Technician	20	0.10	4	12
Licensed Practical Nurse	1,760	8.77	1	98
Physician's Assistant	40	0.20	5	17
Surgical Technician	180	0.90	2	69
Radiologic Technician	310	1.55	3	75
Pharmacy Helper	140	0.70	2	60
Medical-Record Librarian	70	0.35	5	77
Dental Hygienist	10	0.05	4	10
Medical Laboratory Technologist	290	1.45	2	77
Biochemistry Technologist	80	0.40	6	17
Microbiology Technologist	40	0.20	3	21
Cytotechnologist	20	0.10	4	19
Histologic Technologist	30	0.15	13	17
Medical Laboratory Technician	270	1.35	4	63
Electrocardiograph Technician	90	0.45	5	54
Electroencephalograph Technician	10	0.05	4	12
Dietetic Technician	100	0.50	3	46

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Technical Occupations (cont.)				
Blood Bank Technology Specialist	90	0.45	3	29
Physical Therapy Assistant	80	0.40	5	65
Radiologic Technologist and/or Nuclear Medical Technologist	140	0.70	4	46
All Other Medical and Dental Technologists and Technicians	150	0.75	na	na
All Other Technical Workers	60	0.30	na	na
Service Occupations	5,870	29.26	na	na
Supervisor, Nonworking	90	0.45	2	44
Housekeeper	80	0.40	3	71
Maid	940	4.69	1	92
All Other Janitors, Porters, or Cleaners	250	1.25	3	54
Guard or Doorkeeper	40	0.20	7	25
Baker, Bread and/or Pastry	30	0.15	5	29
Dining Room or Cafeteria Attendant	80	0.40	8	23
Kitchen Helper	410	2.04	4	71
Counter Attendant, Lunchroom, Coffee Shop, or Cafeteria	120	0.60	3	35
Cook, Short Order and/or Specialty Fast Foods	20	0.10	2	12
Cook, Institution or Cafeteria	230	1.15	2	90
Pantry, Sandwich and/or Coffee Maker	20	0.10	5	15
All Other Food Service Workers	470	2.34	na	na
Nurse Aide and/or Orderly	2,400	11.96	2	94
Psychiatric Aide	510	2.54	6	17
Orthopedic-Cast Specialist	10	0.05	8	10
Social Service Aide	20	0.10	7	23
Medical Assistant	30	0.15	16	17
Occupational Therapy Assistant	10	0.05	8	12
All Other Service Workers	110	0.55	na	na
Maintenance and Production Occupations	860	4.29	na	na
Supervisor, Nonworking	80	0.40	3	25
Electromedical Equipment Repairer	10	0.05	7	13
Mechanic, Maintenance	40	0.20	2	12
Washer, Machine and/or Starcher	30	0.15	3	25
Laundry Presser, Machine	120	0.60	3	35
Truck Driver	20	0.10	7	15
Carpenter	50	0.25	3	38
Electrician	30	0.15	3	33
Maintenance Repairer, General Utility	150	0.75	4	71
Helper, Trades	10	0.05	7	13
Painter, Maintenance	30	0.15	3	25
Plumber and/or Pipefitter	20	0.10	5	23
Sewer, Custom	20	0.10	6	17
Stationary Boiler Firer	50	0.25	7	21
Stationary Engineer	30	0.15	6	23
Gardener and/or Groundskeeper	20	0.10	2	19

HOSPITALS (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occupations (cont.)				
Ambulance Driver and/or Attendant	30	0.15	6	6
All Other Skilled Craft and Kindred Workers	20	0.10	na	na
All Other Operatives and Semiskilled Workers	50	0.25	na	na
All Other Laborers and Unskilled Workers	50	0.25	na	na
Clerical Occupations	3,020	15.05	na	na
Clerical Supervisor, Office or Plant	80	0.40	3	40
Bookkeeping and/or Billing Machine Operator	50	0.25	9	25
Computer Operator	40	0.20	5	35
Keypunch Operator	50	0.25	3	27
All Other Office Machine Operators	10	0.05	na	na
Stenographer	240	1.20	4	46
Accounting Clerk	100	0.50	3	60
Bookkeeper, Hand	20	0.10	7	31
Cashier	110	0.55	1	58
File Clerk	160	0.80	4	60
General Clerk, Office	220	1.10	5	48
Library Assistant	20	0.10	6	13
Insurance Clerk, Medical	300	1.50	1	73
Order Clerk	20	0.10	3	13
Payroll and/or Timekeeping Clerk	50	0.25	3	58
Personnel Clerk	30	0.15	4	33
Procurement Clerk	20	0.10	4	25
Receptionist	140	0.70	4	48
Secretary	440	2.19	1	73
Statistical Clerk	40	0.20	2	25
Switchboard Operator	170	0.85	3	46
Switchboard Operator-Receptionist	120	0.60	6	42
Typist	150	0.75	6	37
All Other Office Clerical Workers	260	1.30	na	na
Shipping and/or Receiving Clerk	30	0.15	3	25
Stock Clerk, Stockroom, Warehouse, or Storage Yard	80	0.40	2	48
All Other Plant Clerical Workers	70	0.35	na	na

NOTES ABOUT THE TABLE

Estimated Employment

If only one or two establishments reported a particular occupation, the occupational estimate is not shown separately, but added to the appropriate "All Other" or residual category. The "TOTAL ALL OCCUPATIONS" estimate for each industry is based on a benchmark figure derived from the second quarter 1980 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law.

Percent of Total Employment

The detail in the column entitled "% of Total Empl." may not add to totals due to rounding.

Relative Error

The relative error was computed only for specific occupations and not for residual categories nor for occupational groupings. If the relative error of an occupation exceeded 50 percent, the employment for that occupation was added to the residual category that was relevant to it. The relative error relates to the actual estimate before rounding. For an example of how the relative error is applied, see Accuracy of Occupational Employment Data in the METHODOLOGY.

Percent of Establishments Reporting the Occupation

The percent of establishments reporting each occupation could not be readily calculated for groups of occupations, but only for specific occupations.

Abbreviations

na - not applicable
Empl. - Employment

METHODOLOGY

The Sample

The June 1979 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law was used as the sampling frame for the Occupational Employment Statistics (OES) Program's survey of hospitals. Except for the U.S. Veterans Administration Hospital at Togus, a federal hospital which was included in the survey of federal government, all hospitals employing more than three workers were included in this survey. This totaled 58 units employing a total of 19,673 employees.

The Survey

The survey consisted of an initial mailing and two follow-up mailings to nonrespondents. In addition, phone calls and personal visits were made to those employers whose responses were critical for valid estimates. Data for the state hospitals was taken from the "employee file" maintained by the State Department of Personnel. Usable responses were received from 52 units, or 90 percent of the total number of hospitals included in this survey. These responses represented 94 percent of the total employment in hospitals, or 18,588 workers.

The Screening, Editing, and Estimating Procedure

Each completed questionnaire returned was edited and screened both manually and mechanically for consistency and accuracy. The resulting "clean data file" served as the basis for calculating estimates. The "clean" employer questionnaires were separated into seven size groups, the size being determined by the number of persons employed by each. The data was then tied into the universe employment for the report month of April 1980. These universe, or benchmark, figures came from the second quarter 1980 ES-202 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law. The total survey data by size class was divided into the universe data for corresponding size classes. This produced benchmark factors which were applied to the occupational data, thus accounting for any nonresponding units, and any units not included in the sample. The occupational estimates were summed across size classes to the industry total and rounded to the nearest ten. The percent of occupational distribution was then calculated.

Accuracy of Occupational Employment Data

There are two types of errors which affect the accuracy of the estimates published here--sampling and nonsampling errors. Sampling error is a specific arithmetic measure of the precision of an estimate. It is the difference between the estimate computed from the sample data and the result that would be obtained if the same methods were used to collect identical information from the entire population or universe with no nonresponse. The relative error entries listed in this report are the sampling errors of each occupation expressed as a percent of that occupational estimate. In other words, relative error means that the chances are two out of three (a 68 percent confidence level) that the results of a comparable full-scale data collection (the universe) with

100 percent response, using the same survey approach would not differ by more than the percent error shown. The chances are 19 out of 20 (a 95 percent confidence level) that the results would not differ by more than twice the percent error shown. For example, it is estimated in this report that there are 310 radiologic technicians employed in hospitals with a 3 percent relative error. Thus, at a 68 percent confidence level, it is assured that the results of a full-scale count of radiologic technicians in this industry would not differ from this estimate by more than 9 workers (310 x .03). At a 95 percent confidence level, the universe count would not differ from the estimate by more than 6 percent of 310, or 19 workers.

The nonsampling error results from external factors in a survey rather than from the fact that a sampling technique was used. Examples of these errors are: response errors, processing errors, computational errors, etc. The possibility of these errors was recognized from the start of the survey and every effort was made to avoid them.

2802

The perceptual movement of the figure illustrates the two facets of research. Viewed one way, the four small arrows pointing to the central square represent the varied inputs to a research project. Viewed another way, the four large arrows pointing outward represent the widespread dissemination of the results of research.

DIVISION OF ECONOMIC ANALYSIS AND RESEARCH

For further information regarding this report, please call 207-289-2271.

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MAINE

OCCUPATIONAL

STAFFING PATTERNS

For

Manufacturing Industries

(Data for Second Quarter 1980)

MAINE DEPARTMENT OF LABOR
Bureau of Employment Security
Division of Economic Analysis and Research

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MAINE OCCUPATIONAL STAFFING PATTERNS

FOR

MANUFACTURING INDUSTRIES

SECOND QUARTER 1980

This labor market information is developed through a cooperative program with the U.S. Bureau of Labor Statistics and is funded by the U.S. Employment and Training Administration

DIVISION OF ECONOMIC ANALYSIS AND RESEARCH
Ray A. Fongemie, Director

Occupational Outlook and Job Information Section, Ronald R. Leonard, Chief

ISSUED DECEMBER 1981

AUGUSTA, MAINE

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PREFACE

We wish to express our thanks to all the employers who supplied the necessary occupational employment data on which the estimates presented herein are based. This publication would not have been possible without their cooperation.

We also wish to express our thanks to the U.S. Department of Labor, both in Washington, D.C. and the regional level in Boston, Massachusetts, for their assistance in this federal-state cooperative effort.

This information is not a final product in and of itself, but will be used in making occupational employment projections to 1990 which will be available in mid 1982.

For further information regarding this report or the projection work now in progress, please write to us or call 207-289-2271.

Ray A. Fongemie, Director
DIVISION OF ECONOMIC ANALYSIS AND RESEARCH

December 1981
Augusta, Maine 04330

TABLE OF CONTENTS

	Page
INTRODUCTION	1
FOOD AND KINDRED PRODUCTS, SIC 20	3
TEXTILE MILL PRODUCTS, SIC 22	6
BROAD WOVEN FABRIC MILLS, WOOL (Including Dyeing and Finishing), SIC 223	10
APPAREL AND OTHER FINISHED PRODUCTS MADE FROM FABRICS AND SIMILAR MATERIALS, SIC 23	13
LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE, SIC 24	15
LOGGING CAMPS AND LOGGING CONTRACTORS SIC 241	18
SAWMILLS AND PLANING MILLS, SIC 242	19
FURNITURE AND FIXTURES, SIC 25	21
PAPER AND ALLIED PRODUCTS, SIC 26	23
PRINTING, PUBLISHING, AND ALLIED INDUSTRIES, SIC 27	27
NEWSPAPERS: PUBLISHING, PUBLISHING AND PRINTING, SIC 271	29
CHEMICALS AND ALLIED PRODUCTS, SIC 28	31
RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS, SIC 30	33
LEATHER AND LEATHER PRODUCTS, SIC 31	35
FOOTWEAR, EXCEPT RUBBER, SIC 314	39
STONE, CLAY, GLASS, AND CONCRETE PRODUCTS, SIC 32	42
PRIMARY METAL INDUSTRIES, SIC 33	44
FABRICATED METAL PRODUCTS, EXCEPT MACHINERY AND TRANSPORTATION EQUIPMENT, SIC 34	45
FABRICATED STRUCTURAL METAL PRODUCTS, SIC 344	48
MACHINERY, EXCEPT ELECTRICAL, SIC 35	50

Page

ELECTRICAL AND ELECTRONIC MACHINERY, EQUIPMENT, AND SUPPLIES, SIC 36..... 53

TRANSPORTATION EQUIPMENT, SIC 37..... 56

MEASURING, ANALYZING, AND CONTROLLING INSTRUMENTS; PHOTOGRAPHIC, MEDICAL, AND OPTICAL GOODS; WATCHES AND CLOCKS, SIC 38..... 58

MISCELLANEOUS MANUFACTURING INDUSTRIES, SIC 39..... 59

NOTES ABOUT THE TABLES..... 61

METHODOLOGY..... 63

INTRODUCTION

This publication is one of a continuing number of reports covering occupational employment for selected industries in Maine. The information in these reports relates to the first part of a "State Comprehensive Manpower Information System" which was defined and mandated by the Manpower Development and Training Act in 1962, the Vocational Education Act of 1963 and as amended in 1968, the Comprehensive Employment and Training Act of 1973, and the Vocational Education Act Amendments of 1976. This federal legislation, coupled with the rapidly expanding public awareness of the need for more vocational training, has resulted in an unparalleled demand for current employment data and projections of future employment requirements by occupation.

The Occupational Employment Statistics (OES) Program has emerged as the system which is expected to supply much of the data leading to a "State Comprehensive Manpower Information System." This program is a federal-state endeavor involving many state employment security agencies throughout the nation, in conjunction with the Employment and Training Administration and the Bureau of Labor Statistics. This OES program consists of three distinct, yet integral components: survey operations, industry-occupation matrices, and projections.

The first part of the OES program consists primarily of collecting occupational employment data by industry through a survey questionnaire mailed to a sample of establishments throughout the State. The sample data received is expanded, using a system of weights and benchmark factors, to produce statewide staffing patterns for the industry. These staffing patterns can then be applied to current or projected estimates of industrial employment to produce estimates of employment by occupation for the State or substate areas.

This publication, a direct result of the survey phase of the OES program, contains the staffing patterns for manufacturing industries. The actual employment data was collected for the week of the 12th of April, May, or June 1980 depending on the industry classification.

Other booklets have already been published covering nearly all wage and salary workers in Maine. Approximately one-third of the State's industries will be surveyed each year, so that the entire economy will be covered every three years. Using this cycle, employers are asked to provide occupational data only once every three years. This insures that no part of the data is over three years old, and that significant changes in the staffing patterns of industries can be identified early, as the trend develops.

The information obtained from these surveys will be used in the second phase of the OES program to construct industry-occupation matrices covering all sectors of our economy. These matrices, in turn, will provide the data that will be used to project occupational requirements and will be one of the basic ingredients of the "Comprehensive Manpower Information System."

FOOD AND KINDRED PRODUCTS
SIC 20
June 1980

This major group includes establishments manufacturing or processing foods and beverages for human consumption and certain related products, such as manufactured ice, chewing gum, vegetable and animal fats and oils, and prepared feeds for animals and fowls.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	10,700	100.00	na	na
Managers and Officers	530	4.95	4	85
Professional Occupations	140	1.31	na	na
Mechanical Engineer	20	0.19	7	10
Chemist	10	0.09	19	4
Biological Scientist	10	0.09	27	5
Systems Analyst, Electronic Data Processing	10	0.09	12	4
Purchasing Agent and/or Buyer	30	0.28	5	13
Accountant and/or Auditor	30	0.28	8	17
Nurse, Professional	10	0.09	3	6
Personnel and/or Labor Relations Specialist	20	0.19	14	12
Technical Occupations	20	0.19	na	na
Computer Programmer	10	0.09	16	4
Science Technicians	10	0.09	na	na
Service Occupations	210	1.96	na	na
Supervisor, Nonworking	10	0.09	4	4
Janitor, Porter, or Cleaner	120	1.12	2	28
Guard or Doorkeeper	50	0.47	14	13
Food Service Worker	30	0.28	27	6
Maintenance and Production Occupations	8,620	80.56	na	na
Supervisor, Nonworking	200	1.87	3	32
Mechanic, Automotive	70	0.65	5	17
Mechanic, Maintenance	90	0.84	11	11
Refrigeration and/or Air Conditioning Mechanic	40	0.37	7	6
Coin Machine Servicer or Vending Machine Repairer	20	0.19	14	6
All Other Mechanics and Repairers	20	0.19	na	na
Truck Driver	220	2.06	6	29
Carpenter	30	0.28	2	9
Cook and/or Cooker (exclude Retort Operator)	50	0.47	6	5
Delivery or Route Worker	570	5.33	4	36
Electrician	40	0.37	5	10
Industrial Truck Operator	190	1.78	4	18
Inspector	400	3.74	2	10
Machinist	30	0.28	11	10

SIC 20 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Maintenance Repairer, General Utility	270	2.52	4	37
Helper, Trades	20	0.19	29	5
Mixer	260	2.43	12	20
Order Filler	110	1.03	10	16
Oven Operator	120	1.12	9	7
Painter, Maintenance	10	0.09	17	3
Production Packager, Hand or Machine	1,340	12.52	5	38
Stationary Boiler Firer	10	0.09	12	5
Stationary Engineer	20	0.19	7	6
Welder and/or Flamecutter	20	0.19	0	4
Drier Operator	20	0.19	0	4
Baker	20	0.19	18	2
Baker Helper	120	1.12	11	4
Boner, Meat	40	0.37	18	3
Butcher, All Around	30	0.28	20	2
Casing Finisher	40	0.37	31	2
Cheesemaker	10	0.09	27	4
Chicken Cutter	80	0.75	6	2
Cooler Room Worker, Meat	10	0.09	17	4
Dairy Processing Equipment Operator	100	0.93	11	13
Dividing Machine Operator and/or Dough Brake Machine Operator	20	0.19	12	2
Feed Pellet Mill Operator	10	0.09	0	4
Flavor Room Worker	20	0.19	20	6
Ingredient Scaler	20	0.19	0	3
Poultry Dresser and/or Eviscerator	860	8.04	14	3
Retort Operator	40	0.37	11	10
Shellfish Shucker	130	1.21	23	6
Smoker	10	0.09	30	2
Tester	90	0.84	6	12
Conveyor Operator or Tender	20	0.19	5	3
Cutting Machine Operator, Food	40	0.37	12	10
Fish Cleaner, Hand and/or Butcher, Fish	630	5.89	5	12
Cannery Worker	490	4.58	14	10
Weigher, Production	40	0.37	27	6
Washer and/or Separator, Food	30	0.28	12	8
Grader, Food and/or Skins	60	0.56	20	4
Equipment Cleaner, Hand	240	2.24	3	18
All Other Skilled Craft and Kindred Workers	50	0.47	na	na
All Other Operatives and Semiskilled Workers	290	2.71	na	na
All Other Laborers and Unskilled Workers	910	8.50	na	na
Clerical Occupations	880	8.22	na	na
Clerical Supervisor, Office or Plant	20	0.19	20	9
Bookkeeping and/or Billing Machine Operator	10	0.09	11	4
Computer Operator	20	0.19	10	9

SIC 20 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
Keypunch Operator	20	0.19	14	8
Accounting Clerk	60	0.56	12	19
Bookkeeper, Hand	50	0.47	7	28
File Clerk	10	0.09	18	4
General Clerk, Office	110	1.03	5	37
Order Clerk	20	0.19	10	8
Payroll and/or Timekeeping Clerk	40	0.37	14	16
Personnel Clerk	10	0.09	9	6
Procurement Clerk	10	0.09	7	5
Secretary	50	0.47	4	27
Statistical Clerk	10	0.09	17	5
Switchboard Operator/Receptionist	20	0.19	7	13
Typist	10	0.09	16	4
All Other Office Clerical Workers	20	0.19	na	na
Production Clerk and/or Coordinator	10	0.09	15	6
Shipping Packer	180	1.68	5	25
Shipping and/or Receiving Clerk	100	0.93	4	23
Weigher, Recordkeeping	20	0.19	17	8
Stock Clerk, Stockroom, Warehouse, or Storage Yard	70	0.65	21	14
All Other Plant Clerical Workers	10	0.09	na	na
Sales Occupations	300	2.80	na	na
Sales Representative, Sales Agent, and/or Sales Associate	180	1.68	9	21
Sales Clerk	120	1.12	11	13

TEXTILE MILL PRODUCTS
SIC 22
April 1980

This major group includes establishments engaged in performing any of the following operations: (1) preparation of fiber and subsequent manufacturing of yarn, thread, braids, twine, and cordage; (2) manufacturing broad woven fabric, narrow woven fabric, knit fabric, and carpets and rugs from yarn; (3) dyeing and finishing fiber, yarn, fabric, and knit apparel; (4) coating, waterproofing, or otherwise treating fabric; (5) the integrated manufacture of knit apparel and other finished articles from yarn; and (6) the manufacture of felt goods, lace goods, nonwoven fabrics, and miscellaneous textiles.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	8,980	100.00	na	na
Managers and Officers	250	2.78	4	89
Professional Occupations	100	1.11	na	na
Industrial Engineer	10	0.11	10	15
Mechanical Engineer	10	0.11	14	11
All Other Engineers	10	0.11	na	na
Chemist	10	0.11	19	11
Purchasing Agent and/or Buyer	10	0.11	7	19
Accountant and/or Auditor	10	0.11	8	21
Nurse, Professional	10	0.11	0	11
Personnel and/or Labor Relations Specialist	10	0.11	11	21
Designer	20	0.22	3	17
Technical Occupations	60	0.67	na	na
Computer Programmer	10	0.11	9	6
Engineering Technician	10	0.11	6	11
Colorist	10	0.11	19	13
All Other Science Technicians	30	0.33	na	na
Service Occupations	190	2.12	na	na
Supervisor, Nonworking	40	0.45	2	9
Janitor, Porter, or Cleaner	70	0.78	5	62
Guard or Doorkeeper	70	0.78	5	28
All Other Service Workers	10	0.11	na	na
Maintenance and Production Occupations	7,790	86.75	na	na
Supervisor, Nonworking	360	4.01	2	66
Mechanic, Maintenance	70	0.78	22	30
Knitting Machine Fixer	30	0.33	0	6
Loom Fixer	190	2.12	8	38
Section Repairer and Setter	100	1.11	22	23
Mechanic, Sewing Machine	10	0.11	25	9
All Other Mechanics and Repairers	50	0.56	na	na
Truck Driver	60	0.67	4	38
Carpenter	20	0.22	14	17

SIC 22 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Drawer-In, Hand	30	0.33	2	26
Electrician	50	0.56	6	36
Industrial Truck Operator	20	0.22	5	23
Inspector	150	1.67	2	47
Machinist	40	0.45	9	30
Maintenance Repairer, General Utility	80	0.89	6	47
Helper, Trades	20	0.22	6	13
Millwright	40	0.45	10	19
Oiler	30	0.33	11	21
Order Filler	30	0.33	15	13
Painter, Maintenance	10	0.11	15	9
Plumber and/or Pipefitter	20	0.22	7	15
Production Packager, Hand or Machine	190	2.12	11	43
Sewing Machine Operator, Special Equipment and/or Automatic Equipment--Garment	20	0.22	7	9
Sewing Machine Operator, Regular Equipment--Nongarment	80	0.89	24	13
Spooler Operator, Automatic	60	0.67	7	17
Stationary Boiler Firer	40	0.45	4	23
Stationary Engineer	10	0.11	5	11
Welder and/or Flamecutter	10	0.11	19	17
Weaver	550	6.12	10	53
Battery Loader	160	1.78	17	23
Beam Dyer Operator and/or Package Dyeing Machine Operator	30	0.33	11	13
Beam Warper Tender, Automatic, and/or Beamer	70	0.78	13	28
Bleach Range Operator and/or Knit Goods Bleacher	10	0.11	0	6
Blending Machine Operator	130	1.45	10	26
Bobbin Sorter	20	0.22	7	9
Bobbin Winder, Machine or Sewing Machine	20	0.22	0	9
Braiding Machine Operator	30	0.33	23	11
Burler	200	2.23	8	28
Calender Operator, Cloth Pressing	20	0.22	5	11
Card Grinder	20	0.22	8	19
Card Tender, Comber Tender, and/or Card Stripper	360	4.01	5	45
Drawing Frame and/or Gill Box Tender	60	0.67	11	26
Cloth Feeder and/or Back Tender	70	0.78	15	21
Cloth Shrinking Machine Operator	20	0.22	28	9
Cloth Trimmer, Machine and/or Shearing Machine Operator	40	0.45	12	13
Cloth or Carpet Winder	40	0.45	27	15
Creeler, Yarn	50	0.56	14	26
Doffer	210	2.34	7	36
Dresser Tender	80	0.89	18	28
Dye Range Operator and/or Spiral Dye Back Tender	30	0.33	37	6

SIC 22 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Dye Reel Operator, Jigger, and/or Padding Machine Operator	10	0.11	2	6
Dye Tub Operator, Random Dyer, and/or Spot Dyeing and Winding Machine Operator	10	0.11	2	6
Harness Builder, Loom Changer, and/or Loom Starter	20	0.22	1	15
Knitting Machine Operator	110	1.22	5	11
Loom Winder Tender	30	0.33	14	9
Mender, Cloth	220	2.45	4	26
Mercerizer Operator and/or Mangle Tender	30	0.33	11	6
Napper Tender	70	0.78	10	26
Needle Felt Making Machine Operator and/or Needle Loom Operator	40	0.45	10	6
Opener Tender and/or Waste Machine Tender	40	0.45	16	13
Picker Tender	110	1.22	8	23
Quilling Machine Operator, Automatic or Non-Automatic	110	1.22	17	19
Slasher Tender	20	0.22	4	11
Slubber Tender	30	0.33	18	11
Smash Hand	40	0.45	21	9
Speeder Tender	30	0.33	30	11
Spinner, Frame	560	6.24	4	49
Tender Frame Operator	30	0.33	15	13
Tester	20	0.22	8	13
Twister Tender	170	1.89	14	30
Warp Tying Machine Tender	60	0.67	10	36
Winder Operator, Automatic	120	1.34	7	30
Yarn Winder	240	2.67	10	36
Cloth Grader	10	0.11	3	9
Folder, Hand	60	0.67	8	11
Folding Machine Operator	10	0.11	20	6
Cutter, Machine	30	0.33	16	13
Drier Operator, Textiles and Rugs	60	0.67	7	26
Mixer and/or Blender, Chemicals and Chemical Products	20	0.22	17	17
All Other Skilled Craft and Kindred Workers	50	0.56	na	na
All Other Operatives and Semiskilled Workers	550	6.12	na	na
All Other Laborers and Unskilled Workers	840	9.35	na	na
Clerical Occupations	530	5.90	na	na
Clerical Supervisor, Office or Plant	20	0.22	4	6
Bookkeeping and/or Billing Machine Operator	10	0.11	10	13
Computer Operator	10	0.11	12	13
Keypunch Operator	10	0.11	4	6
Accounting Clerk	40	0.45	8	19
Bookkeeper, Hand	10	0.11	15	19
File Clerk	10	0.11	0	11

SIC 22 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
General Clerk, Office	100	1.11	5	64
Order Clerk	20	0.22	2	6
Payroll and/or Timekeeping Clerk	30	0.33	7	30
Personnel Clerk	10	0.11	9	19
Receptionist	10	0.11	22	9
Secretary	30	0.33	8	34
Switchboard Operator/Receptionist	10	0.11	10	21
All Other Office Clerical Workers	10	0.11	na	na
Production Clerk and/or Coordinator	40	0.45	2	30
Shipping Packer	70	0.78	9	34
Shipping and/or Receiving Clerk	50	0.56	9	57
Stock Clerk, Stockroom, Warehouse, or Storage Yard	20	0.22	11	23
All Other Plant Clerical Workers	20	0.22	na	na
Sales Occupations	60	0.67	na	na
Sales Representative, Sales Agent, and/or Sales Associate	40	0.45	14	19
Sales Clerk	20	0.22	27	11

BROAD WOVEN FABRIC MILLS, WOOL
(Including Dyeing and Finishing)
SIC 223
April 1980

This industry category includes units primarily engaged in weaving fabrics over 12 inches wide, wholly or chiefly by weight of wool, mohair, or similar animal fibers; dyeing and finishing of wools, tops, or yarn; and shrinking and sponging wool goods for the trade.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	3,850	100.00	na	na
Managers and Officers	100	2.60	1	87
Professional Occupations	50	1.30	na	na
Engineers	20	0.52	na	na
Accountant and/or Auditor	10	0.26	5	27
Personnel and/or Labor Relations Specialist	10	0.26	3	33
Designer	10	0.26	0	27
Technical Occupations	20	0.52	na	na
Service Occupations	50	1.30	na	na
Janitor, Porter, or Cleaner	20	0.52	4	60
Guard or Doorkeeper	20	0.52	4	33
All Other Service Workers	10	0.26	na	na
Maintenance and Production Occupations	3,420	88.83	na	na
Supervisor, Nonworking	170	4.42	2	80
Mechanic, Maintenance	30	0.78	3	40
Loom Fixer	90	2.34	1	73
Section Repairer and Setter	30	0.78	6	33
All Other Mechanics and Repairers	40	1.04	na	na
Truck Driver	20	0.52	1	60
Drawer-In, Hand	20	0.52	2	60
Electrician	30	0.78	2	60
Industrial Truck Operator	10	0.26	6	27
Inspector	70	1.82	2	73
Machinist	10	0.26	1	40
Maintenance Repairer, General Utility	50	1.30	3	60
Helper, Trades	10	0.26	3	27
Millwright	20	0.52	1	33
Oiler	10	0.26	5	20
Plumber and/or Pipefitter	10	0.26	0	20
Production Packager, Hand or Machine	90	2.34	2	60
Sewing Machine Operator, Regular Equipment--Nongarment	20	0.52	1	20
Spooler Operator, Automatic	30	0.78	5	33
Stationary Boiler Firer	30	0.78	3	53
Welder and/or Flamecutter	10	0.26	0	27

SIC 22[illegible] (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Weaver	230	5.97	2	87
Battery Loader	50	1.30	2	33
Beam Dyer Operator and/or Package Dyeing Machine Operator	20	0.52	5	27
Beam Warper Tender, Automatic, and/or Beamer	10	0.26	6	20
Blending Machine Operator	70	1.82	4	40
Bobbin Winder, Machine or Sewing Machine	20	0.52	0	20
Burler	150	3.90	3	47
Calender Operator, Cloth Pressing	20	0.52	5	27
Card Grinder	10	0.26	10	20
Card Tender, Comber Tender, and/or Card Stripper	250	6.49	3	67
Drawing Frame and/or Gill Box Tender	20	0.52	13	27
Cloth Feeder and/or Back Tender	30	0.78	2	27
Cloth Shrinking Machine Operator	10	0.26	3	20
Cloth Trimmer, Machine and/or Shearing Machine Operator	30	0.78	10	27
Cloth or Carpet Winder	10	0.26	0	20
Creeler, Yarn	10	0.26	8	20
Doffer	60	1.56	2	40
Dresser Tender	40	1.04	2	67
Dye Tub Operator, Random Dyer, and/or Spot Dyeing and Winding Machine Operator	10	0.26	2	20
Harness Builder, Loom Changer, and/or Loom Starter	10	0.26	1	40
Mender, Cloth	170	4.42	2	40
Napper Tender	50	1.30	6	60
Picker Tender	70	1.82	5	47
Quilling Machine Operator, Automatic or Non-Automatic	40	1.04	0	33
Spinner, Frame	230	5.97	3	67
Tester	20	0.52	5	20
Twister Tender	50	1.30	1	33
Warp Tying Machine Operator	20	0.52	3	47
Winder Operator, Automatic	70	1.82	3	47
Yarn Winder	70	1.82	3	47
Cloth Grader	10	0.26	3	27
Drier Operator, Textiles and Rugs	40	1.04	4	60
Mixer and/or Blender, Chemicals and Chemical Products	10	0.26	2	27
All Other Skilled Craft and Kindred Workers	20	0.52	na	na
All Other Operatives and Semiskilled Workers	420	10.91	na	na
All Other Laborers and Unskilled Workers	270	7.01	na	na

SIC 223 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations	200	5.19	na	na
Bookkeeping and/or Billing Machine Operator	10	0.26	4	20
Accounting Clerk	20	0.52	1	20
Bookkeeper, Hand	10	0.26	20	40
File Clerk	10	0.26	0	20
General Clerk, Office	30	0.78	4	73
Payroll and/or Timekeeping Clerk	10	0.26	2	40
Personnel Clerk	10	0.26	2	33
Secretary	10	0.26	6	27
Switchboard Operator/Receptionist	10	0.26	3	33
All Other Office Clerical Workers	10	0.26	na	na
Production Clerk and/or Coordinator	30	0.78	1	47
Shipping Packer	10	0.26	3	33
Shipping and/or Receiving Clerk	10	0.26	2	53
Stock Clerk, Stockroom, Warehouse, or Storage Yard	10	0.26	8	20
All Other Plant Clerical Workers	10	0.26	na	na
Sales Occupations	10	0.26	na	na

APPAREL AND OTHER FINISHED PRODUCTS
MADE FROM FABRICS AND SIMILAR MATERIALS
SIC 23 1/
May 1980

This major industry group, known as the cutting-up and needle trades, includes establishments producing clothing and fabricating products by cutting and sewing purchased woven or knit textile fabrics and related materials such as leather, rubberized fabrics, plastics, and furs.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	3,590	100.00	na	na
Managers and Officers	140	3.90	2	95
Professional Occupations	20	0.56	na	na
Designer	10	0.28	11	20
All Other Professional Workers	10	0.28	na	na
Technical Occupations	10	0.28	na	na
Service Occupations	50	1.39	na	na
Janitor, Porter, or Cleaner	30	0.84	3	65
All Other Service Workers	20	0.56	na	na
Maintenance and Production Occupations	3,080	85.79	na	na
Supervisor, Nonworking	70	1.95	5	60
Mechanic, Sewing Machine	20	0.56	1	55
All Other Mechanics and Repairers	10	0.28	na	na
Presser, Hand	20	0.56	11	30
Presser, Machine	70	1.95	3	45
Inspector	110	3.06	2	55
Instructor, Apparel or Textile Machine	10	0.28	2	20
Maintenance Repairer, General Utility	10	0.28	7	20
Production Packager	70	1.95	2	35
Sewing Machine Operator, Regular Equipment--Garment	1,740	48.47	1	80
Sewing Machine Operator, Special and/or Automatic Equipment--Garment	230	6.41	13	60
Bundler	40	1.11	2	40
Cutter, Portable Machine	50	1.39	3	60
Die Cutter and/or Clicking Machine Operator	10	0.28	4	20
Fusing Machine Operator	10	0.28	5	15
Garment Repairer	20	0.56	6	25
Hand Sewer	10	0.28	17	15
Shaper and Presser	20	0.56	7	25
Spot Cleaner	10	0.28	6	25
Spreader	70	1.95	2	60
Thread Trimmer	50	1.39	8	55
Work Distributor	40	1.11	4	25
Marker	10	0.28	10	25
Cutter, Hand	10	0.28	15	20

SIC 23 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Turner	30	0.84	4	45
Folder, Hand	120	3.34	3	25
Soabar Operator	20	0.56	0	15
All Other Skilled Craft and Kindred Workers	10	0.28	na	na
All Other Operatives and Semiskilled Workers	150	4.18	na	na
All Other Laborers and Unskilled Workers	40	1.11	na	na
Clerical Occupations	280	7.80	na	na
Clerical Supervisor, Office or Plant	10	0.28	11	20
Computer Operator	10	0.28	4	15
File Clerk	10	0.28	8	25
General Clerk, Office	20	0.56	6	45
Order Clerk	10	0.28	4	15
Payroll and/or Timekeeping Clerk	20	0.56	1	45
All Other Office Clerical Workers	120	3.34	na	na
Shipping Packer	50	1.39	5	70
Shipping and/or Receiving Clerk	10	0.28	5	55
Stock Clerk, Stockroom, Warehouse, or Storage Yard	10	0.28	11	35
All Other Plant Clerical Workers	10	0.28	na	na
Sales Occupations	10	0.28	na	na

1/ Excludes SIC 239 - Miscellaneous Fabricated Textile Products.

LUMBER AND WOOD PRODUCTS, EXCEPT FURNITURE
SIC 24
May 1980 1/

This major group includes logging camps engaged in cutting timber and pulpwood, merchant sawmills, lath mills, shingle mills, cooperage stock mills, planing mills, and plywood mills and veneer mills engaged in producing lumber and wood basic materials; and establishments engaged in manufacturing finished articles made entirely or mainly of wood or wood substitutes.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	12,970	100.00	na	na
Managers and Officers	770	5.94	4	65
Professional Occupations	130	1.00	na	na
Industrial Engineer	10	0.08	24	1
Mechanical Engineer	10	0.08	20	3
Purchasing Agent and/or Buyer	30	0.23	13	5
Accountant and/or Auditor	60	0.46	9	12
Personnel and/or Labor Relations Specialist	10	0.08	14	3
All Other Professional Workers	10	0.08	na	na
Technical Occupations	110	0.85	na	na
Drafter	20	0.15	17	3
Timber Cruiser	70	0.54	10	7
All Other Technicians	20	0.15	na	na
Service Occupations	380	2.93	na	na
Supervisor, Nonworking	10	0.08	26	1
Janitor, Porter, or Cleaner	210	1.62	8	19
Guard or Doorkeeper	100	0.77	11	8
Food Service Worker	60	0.46	12	7
Maintenance and Production Occupations	10,860	83.73	na	na
Supervisor, Nonworking	410	3.16	4	29
Mechanic, Automotive	110	0.85	14	12
Engineering Equipment Mechanic	100	0.77	25	6
Mechanic, Maintenance	150	1.16	19	10
All Other Mechanics and Repairers	20	0.15	na	na
Truck Driver	490	3.78	4	48
Cabinetmaker	60	0.46	19	3
Carpenter	190	1.4	9	7
Crane, Derrick, and/or Hoist Operator	10	0.08	16	2
Delivery or Route Worker	10	0.08	20	2
Electrician	50	0.39	7	5
Heavy Equipment Operator	170	1.31	8	13
Industrial Truck Operator	210	1.62	4	24
Inspector	90	0.69	14	7
Machinist	70	0.54	9	5
Maintenance Repairer, General Utility	230	1.77	7	22

SIC 24 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Helper, Trades	100	0.77	12	9
Millwright	50	0.39	21	3
Oiler	10	0.08	20	1
Plumber and/or Pipefitter	10	0.08	17	1
Production Packager, Hand or Machine	350	2.70	20	9
Stationary Boiler Firer	110	0.85	7	5
Stationary Engineer	10	0.08	41	1
Logging Tractor Operator	980	7.56	4	43
Welder and/or Flamecutter	10	0.08	18	2
Power Barker Operator	160	1.23	8	21
Band Scroll Saw Operator	20	0.15	31	1
Boring Machine Operator	40	0.31	32	3
Carrier Driver	10	0.08	19	2
Chain Offbearer, Lumber	240	1.85	8	14
Chipper	60	0.46	8	9
Choker Seiter, Lumber	40	0.31	24	2
Cut Off Saw Operator, Lumber	220	1.70	16	16
Cutt Off Sawyer, Log	30	0.23	13	3
Dowel Machine Operator	80	0.62	21	3
Edger, Automatic and/or Pony	110	0.85	5	17
Faller and/or Bucker	1,400	10.79	5	52
Gang Sawyer	20	0.15	18	2
Head Loader	10	0.08	22	2
Head Sawyer	170	1.31	5	26
Kiln Operator, Lumber	20	0.15	13	5
Lathe Operator, Wood	70	0.54	21	3
Loader, Car and Truck	70	0.54	15	6
Log Handling Equipment Operator	160	1.23	8	17
Log Inspector, Grader, and/or Scaler	210	1.62	6	23
Lumber Grader	120	0.93	9	12
Lumber Straightener	70	0.54	11	7
Machine Setter, Woodworking	120	0.93	16	8
Wood Machinist	90	0.69	16	7
Nailing Machine Operator	60	0.46	15	4
Off Bearer, Wooden Parts	130	1.00	15	5
Pond Worker, Lumber	20	0.15	16	2
Resawyer	100	0.77	16	11
Ripsaw Operator	110	0.85	12	12
Sander, Wood	110	0.85	15	9
Saw Filer	100	0.77	6	13
Shaper and/or Router Operator	100	0.77	26	2
Kiln Stacker Operator	10	0.08	34	1
Tenoner Operator	10	0.08	32	2
Trim Saw Operator	120	0.93	11	15
Variety Saw Operator	70	0.54	14	7
Veneer Lathe Operator	40	0.31	26	1
Woodworking Machine Operator	290	2.24	10	14
Painter, Production	90	0.69	9	10
Conveyor Operator or Tender	10	0.08	33	1

SIC 24 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Planer Operator	80	0.62	9	12
Sorter Operator, Green Lumber	20	0.15	46	1
Assembler	190	1.46	9	10
All Other Skilled Craft and Kindred Workers	90	0.69	na	na
All Other Operatives and Semiskilled Workers	270	2.08	na	na
All Other Laborers and Unskilled Workers	1,300	10.02	na	na
Clerical Occupations	630	4.86	na	na
Clerical Supervisor, Office or Plant	10	0.08	37	2
Accounting Clerk	80	0.62	11	12
Bookkeeper, Hand	120	0.93	5	26
General Clerk, Office	150	1.16	6	28
Payroll and/or Timekeeping Clerk	20	0.15	9	5
Personnel Clerk	10	0.08	26	2
Procurement Clerk	10	0.08	31	1
Receptionist	10	0.08	23	1
Secretary	80	0.62	8	15
Statistical Clerk	10	0.08	46	1
Switchboard Operator/Receptionist	10	0.08	20	3
Typist	10	0.08	32	1
All Other Office Clerical Workers	10	0.08	na	na
Production Clerk and/or Coordinator	10	0.08	21	2
Shipping Packer	60	0.46	11	8
Shipping and/or Receiving Clerk	20	0.15	13	3
Stock Clerk, Stockroom, Warehouse, or Storage Yard	10	0.08	19	2
Sales Occupations	90	0.69	na	na
Sales Representative, Sales Agent, and/or Sales Associate	70	0.54	11	10
Sales Clerks	20	0.15	22	3

1/ The reference date for SIC 24 is May 1980, except for SIC 241. Because of the "mud season" the reference date for SIC 241 was changed to June 1980.

LOGGING CAMPS AND LOGGING CONTRACTORS
SIC 241
June 1980

This industry category includes logging camps and logging contractors primarily engaged in cutting timber and in producing rough, round, hewn, or riven primary forest or wood raw materials.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	4,250	100.00	na	na
Managers and Officers	330	7.76	8	53
Professional Occupations	30	0.71	na	na
Accountant and/or Auditor	20	0.47	16	7
All Other Professional Occupations	10	0.24	na	na
Technical Occupations	90	2.12	na	na
Drafter	10	0.24	34	2
Timber Cruiser	70	1.65	10	14
All Other Technical Workers	10	0.24	na	na
Service Occupations	150	3.53	na	na
Janitor, Porter, or Cleaner	50	1.18	10	9
Guard or Doorkeeper	40	0.94	23	5
Food Service Worker	60	1.41	12	14
Maintenance and Production Occupations	3,460	81.41	na	na
Supervisor, Nonworking	140	3.29	6	17
Mechanic, Automotive	90	2.12	17	17
Engineering Equipment Mechanic	100	2.35	25	11
Truck Driver	330	7.76	4	61
Heavy Equipment Operator	150	3.53	9	22
Helper, Trades	40	0.94	19	3
Logging Tractor Operator	920	21.65	4	76
Choaker Setter, Lumber	40	0.94	24	3
Faller and/or Bucker	1,320	31.06	5	91
Head Loader	10	0.24	22	3
Log Handling Equipment Operator	30	0.71	12	9
Log Inspector, Grader, and/or Scaler	120	2.82	8	16
All Other Skilled Craft and Kindred Workers	20	0.47	na	na
All Other Operatives and Semiskilled Workers	30	0.71	na	na
All Other Laborers and Unskilled Workers	120	2.82	na	na
Clerical Occupations	180	4.24	na	na
Accounting Clerk	60	1.41	13	13
Bookkeeper, Hand	50	1.18	8	23
General Clerk, Office	50	1.18	9	22
Secretary	20	0.47	14	6
Sales Occupations	10	0.24	na	na

SAWMILLS AND PLANING MILLS
SIC 242
May 1980

This industry category includes units primarily engaged in sawing rough lumber and timber from logs and bolts; resawing cants and flitches into lumber; planing; sawing lath and railroad ties; and making wood chips, hardwood dimension lumber, hardwood flooring, excelsior, wood shingles, and cooperage stock.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	3,020	100.00	na	na
Managers and Officers	190	6.29	5	72
Professional Occupations	40	1.32	na	na
Purchasing Agent and/or Buyer	10	0.33	16	7
Accountant and/or Auditor	20	0.66	10	20
All Other Professional Workers	10	0.33	na	na
Service Occupations	90	2.98	na	na
Janitor, Porter, or Cleaner	50	1.66	9	28
Guard or Doorkeeper	40	1.32	14	15
Maintenance and Production Occupations	2,530	83.77	na	na
Supervisor, Nonworking	90	2.98	6	37
Mechanic, Automotive	10	0.33	20	6
Mechanic, Maintenance	50	1.66	14	21
Truck Driver	90	2.98	9	37
Carpenter	20	0.66	19	13
Crane, Derrick, and/or Hoist Operator	10	0.33	19	4
Delivery or Route Worker	10	0.33	25	4
Electrician	10	0.33	15	6
Heavy Equipment Operator	10	0.33	21	4
Industrial Truck Operator	90	2.98	7	48
Inspector	30	0.99	16	11
Machinist	10	0.33	18	4
Maintenance Repairer, General Utility	110	3.64	8	46
Helper, Trades	30	0.99	22	11
Millwright	20	0.66	23	4
Production Packager, Hand or Machine	50	1.66	24	14
Stationary Boiler Firer	30	0.99	12	6
Logging Tractor Operator	50	1.66	20	15
Power Barker Operator	90	2.98	4	58
Carrier Driver	10	0.33	25	4
Chain Offbearer, Lumber	180	5.96	9	44
Chipper	40	1.32	9	28
Cut Off Saw Operator, Lumber	50	1.66	17	18
Cut Off Sawyer, Log	10	0.33	16	4
Edger, Automatic and/or Pony	90	2.98	5	61
Faller and/or Bucker	50	1.66	19	14
Head Sawyer	110	3.64	4	70
Kiln Operator, Lumber	10	0.33	10	10

SIC 242 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Loader, Car and Truck	60	1.99	17	17
Log Handling Equipment Operator	100	3.31	12	35
Log Inspector, Grader, and/or Scaler	50	1.66	8	38
Lumber Grader	90	2.98	7	44
Lumber Straightener	70	2.32	12	28
Machine Setter, Woodworking	20	0.66	29	7
Wood Machinist	10	0.33	49	4
Nailing Machine Operator	20	0.66	25	7
Off Bearer, Wooden Parts	60	1.99	18	13
Pond Worker, Lumber	20	0.66	16	6
Resawyer	30	0.99	14	18
Ripsaw Operator	40	1.32	16	17
Sander, Wood	20	0.66	29	6
Saw Filer	50	1.66	6	34
Trim Saw Operator	70	2.32	7	48
Variety Saw Operator	10	0.33	29	4
Woodworking Machine Operator	40	1.32	23	13
Painter, Production	10	0.33	32	6
Planer Operator	60	1.99	12	34
Sorter Operator, Green Lumber	20	0.66	46	4
Assembler	10	0.33	30	6
All Other Skilled Craft and Kindred Workers	10	0.33	na	na
All Other Operatives and Semiskilled Workers	60	1.99	na	na
All Other Laborers and Unskilled Workers	240	7.95	na	na
Clerical Occupations	140	4.64	na	na
Accounting Clerk	10	0.33	21	10
Bookkeeper, Hand	30	0.99	12	24
General Clerk, Office	50	1.66	11	34
Secretary	30	0.99	12	21
All Other Office Clerical Workers	10	0.33	na	na
Shipping Packer	10	0.33	26	7
Sales Occupations	30	0.99	na	na
Sales Representative, Sales Agent, and/or Sales Associate	30	0.99	20	20

FURNITURE AND FIXTURES
SIC 25
June 1980

This major group includes establishments engaged in manufacturing household, office, public building, and restaurant furniture; and office and store fixtures.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	1,010	100.00	na	na
Managers and Officers	50	4.95	9	94
Professional Occupations	20	1.98	na	na
Purchasing Agent and/or Buyer	10	0.99	0	24
All Other Professional Workers	10	0.99	na	na
Technical Occupations	40	3.96	na	na
Drafter	30	2.97	0	18
All Other Technical Workers	10	0.99	na	na
Service Occupations	10	0.99	na	na
Janitor, Porter, or Cleaner	10	0.99	12	35
Maintenance and Production Occupations	790	78.22	na	na
Supervisor, Nonworking	40	3.96	6	47
Mechanic, Maintenance	10	0.99	0	18
Truck Driver	10	0.99	19	24
Cabinetmaker	60	5.94	25	35
Industrial Truck Operator	10	0.99	0	24
Inspector	20	1.98	24	24
Maintenance Repairer, General Utility	10	0.99	23	18
Production Packager, Hand or Machine	10	0.99	27	18
Furniture Finisher	30	2.97	5	18
Boring Machine Operator, Wood	10	0.99	13	29
Cut Off Saw Operator, Lumber	10	0.99	11	29
Ripsaw Operator	20	1.98	5	24
Rubber	20	1.98	4	18
Sander, Wood	50	4.95	11	41
Shaper and/or Router Operator	10	0.99	16	29
Tenoner Operator	10	0.99	0	18
Woodworking Machine Operator	50	4.95	17	47
Painter, Production	20	1.98	16	29
Gluer and/or Cementer, Hand	10	0.99	4	18
Cushion Maker	10	0.99	35	18
Assembler	90	8.91	16	59
All Other Skilled Craft and Kindred Workers	40	3.96	na	na
All Other Operatives and Semiskilled Workers	150	14.85	na	na
All Other Laborers and Unskilled Workers	90	8.91	na	na

SIC 25 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations	90	8.91	na	na
Bookkeeper, Hand	10	0.99	22	29
General Clerk, Office	10	0.99	17	41
Secretary	10	0.99	11	35
All Other Office Clerical Workers	30	2.97	na	na
Production Clerk and/or Coordinator	10	0.99	2	18
Shipping Packer	10	0.99	15	29
Shipping and/or Receiving Clerk	10	0.99	10	35
Sales Occupations	10	0.99	na	na
Sales Representative, Sales Agent, and/or Sales Associate	10	0.99	17	18

PAPER AND ALLIED PRODUCTS
SIC 26
April 1980

This major group includes the manufacture of pulps from wood and other cellulose fibers, and from rags; the manufacture of paper and paperboard; and the manufacture of paper and paperboard into converted products such as paper coated off the paper machine, paper bags, paper boxes, and envelopes.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	18,350	100.00	na	na
Managers and Officers	630	3.43	8	100
Professional Occupations	740	4.03	na	na
Chemical Engineer	70	0.38	3	31
Electrical or Electronic Engineer	50	0.27	4	37
Industrial Engineer	30	0.16	7	26
Mechanical Engineer	120	0.65	7	49
All Other Engineers	30	0.16	na	na
Chemist	50	0.27	3	23
All Other Natural and Mathematical Scientists	60	0.33	na	na
Systems Analyst, Electronic Data Processing	20	0.11	1	14
Purchasing Agent and/or Buyer	60	0.33	9	49
Accountant and/or Auditor	100	0.54	12	57
Nurse, Professional	50	0.27	10	34
Personnel and/or Labor Relations Specialist	80	0.44	8	40
All Other Professional Workers	20	0.11	na	na
Technical Occupations	350	1.91	na	na
Computer Programmer	20	0.11	9	17
Drafter	40	0.22	4	31
All Other Engineering Technicians	80	0.44	na	na
Science Technician	80	0.44	1	14
All Other Technical Workers	130	0.71	na	na
Service Occupations	370	2.02	na	na
Supervisor, Nonworking	10	0.05	15	14
Janitor, Porter, or Cleaner	240	1.31	3	46
Guard or Doorkeeper	120	0.65	14	37

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occupations	14,990	81.69	na	na
Supervisor, Nonworking	750	4.09	3	69
Mechanic, Automotive	90	0.49	7	37
Mechanic, Maintenance	310	1.69	5	37
All Other Mechanics and Repairers	30	0.16	na	na
Truck Driver	150	0.82	6	60
Carpenter	30	0.16	5	23
Crane, Derrick, and/or Hoist Operator	90	0.49	12	23
Delivery or Route Worker	20	0.11	17	17
Electrician	510	2.78	4	54
Heavy Equipment Operator	90	0.49	5	26
Rigger	60	0.33	0	9
Industrial Truck Operator	560	3.05	5	71
Inspector	80	0.44	9	17
Instrument Repairer	160	0.87	7	37
Machinist	300	1.64	3	51
Maintenance Repairer, General Utility	260	1.42	33	29
Helper, Trades	180	0.98	6	17
Millwright	740	4.03	7	34
Oiler	150	0.82	4	43
Order Filler	60	0.33	7	14
Painter, Maintenance	70	0.38	11	40
Plumber and/or Pipefitter	410	2.23	6	43
Press Operator and/or Plate Printer	20	0.11	11	20
Production Packager, Hand or Machine	230	1.25	16	40
Sheet Metal Worker	50	0.27	2	23
Stationary Boiler Firer	170	0.93	10	37
Stationary Engineer	140	0.76	5	34
Welder and/or Flamecutter	80	0.44	3	31
Back Tender	370	2.02	3	49
Power Barker Operator	40	0.22	17	26
Beater Engineer	110	0.60	6	31
Beater	150	0.82	9	40
Bleacher Operator, Pulp	60	0.33	5	23
Box Maker, Paperboard	10	0.05	38	11
Carton Forming Machine Operator	20	0.11	5	11
Chemical Operator A	40	0.22	9	20
Chemical Operator B	50	0.27	13	20
Chemical Operator Helper	50	0.27	8	14
Chipper	70	0.38	11	26
Coater Operator, Off Machine	190	1.04	7	26
Coating Mixer Tender	120	0.65	3	23
Combiner Operator	20	0.11	10	11
Corrugator Knife Operator	10	0.05	0	9
Corrugator Operator	10	0.05	0	9
Cylinder Machine Tender	40	0.22	29	11
Decker Operator	30	0.16	15	17
Die Cutter and/or Clicking Machine Operator	10	0.05	18	17
Die Mounter	10	0.05	0	11

SIC 26 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Digester Operator	60	0.33	17	23
Digester Operator Helper	40	0.22	28	17
Evaporator Operator, Paper	60	0.33	17	23
Flexo-Folder-Gluer Operator	20	0.11	0	11
Folding Machine Operator, Paper	290	1.58	13	9
Fourdrinier Machine Tender	310	1.69	3	49
Wood Grinder Operator	160	0.87	12	29
Layboy Tender	30	0.16	14	9
Log Inspector, Grader, and/or Scaler	30	0.16	20	20
Machine Setter, Paper Goods	100	0.55	14	20
Paper Reel Operator and/or Rewinder Operator	370	2.02	8	40
Power Press Tender	20	0.11	21	11
Printer-Slotter Operator	10	0.05	0	9
Printer-Slotter Feeder	20	0.11	0	9
Pulp Refiner Operator	40	0.22	13	20
Pulper	70	0.38	17	29
Recovery Operator, Papermaking	80	0.44	9	23
Scorer	10	0.05	5	11
Slitter-Creaser-Slotter Operator	10	0.05	0	9
Slitting Machine Operator	20	0.11	21	20
Stapling Machine Operator	10	0.05	5	17
Supercalender Operator	190	1.04	5	23
Taping Machine Operator	40	0.22	34	14
Tester	250	1.36	3	49
Waxing Machine Operator	10	0.05	0	9
Wet Machine Tender	140	0.76	8	14
Winder, Paper Machine	280	1.53	5	43
Conveyor Operator/Tender	40	0.22	12	17
Brown Stock Washer and/or Blow Pit Operator	30	0.16	14	17
Fourth Hand and/or Fifth Hand, Paper Machine	590	3.22	3	46
Baling Machine Operator	50	0.27	30	26
Chief Operator	30	0.16	14	17
Cutter, Machine	140	0.76	26	23
Embossing, Stamping, and/or Marking Machine Operator	50	0.27	21	9
Assembler	70	0.38	20	9
Mixer and/or Blender, Chemicals and Chemical Products	40	0.22	23	20
All Other Skilled Craft and Kindred Workers	180	0.98	na	na
All Other Operatives and Semiskilled Workers	1,280	6.98	na	na
All Other Laborers and Unskilled Workers	2,620	14.28	na	na
Clerical Occupations	1,200	6.54	na	na
Clerical Supervisor, Office or Plant	40	0.22	8	31

SIC 26 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
Bookkeeping and/or Billing Machine Operator	20	0.11	4	17
Computer Operator	30	0.16	6	29
Keypunch Operator	40	0.22	14	31
All Other Office Machine Operators	10	0.05	na	na
Stenographer	10	0.05	0	9
Accounting Clerk	80	0.44	10	49
Bookkeeper, Hand	20	0.11	3	17
File Clerk	10	0.05	0	17
General Clerk, Office	80	0.44	8	49
Order Clerk	60	0.33	6	31
Payroll and/or Timekeeping Clerk	50	0.27	6	46
Personnel Clerk	20	0.11	8	43
Procurement Clerk	20	0.11	9	29
Secretary	140	0.76	4	57
Statistical Clerk	10	0.05	11	11
Switchboard Operator	10	0.05	10	9
Switchboard Operator/Receptionist	20	0.11	4	49
Typist	100	0.55	8	34
All Other Office Clerical Workers	40	0.22	na	na
Production Clerk and/or Coordinator	70	0.38	4	54
Shipping Packer	80	0.44	10	23
Shipping and/or Receiving Clerk	90	0.49	3	66
Weigher, Record Keeping	20	0.11	0	49
Stock Clerk, Stockroom, Warehouse, or Storage Yard	100	0.55	7	54
All Other Plant Clerical Workers	30	0.16	na	na
Sales Occupations	70	0.38	na	na
Sales Representative, Sales Agent, and/or Sales Associate	70	0.38	10	31

PRINTING, PUBLISHING, AND ALLIED INDUSTRIES
SIC 27
May 1980

This major group includes establishments engaged in printing by one or more of the common processes, such as letterpress, lithography, gravure, or screen; and those establishments which perform services for the printing trade, such as bookbinding, typesetting, engraving, photoengraving, and electrotyping. This major group also includes establishments engaged in publishing newspapers, books, and periodicals, regardless of whether or not they do their own printing.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	3,550	100.00	na	na
Managers and Officers	330	9.30	3	87
Professional Occupations	510	14.37	na	na
Photographer	30	0.85	7	8
Commercial Artist	30	0.85	8	12
Writer and/or Editor	180	5.07	4	36
Librarian, Professional	10	0.28	11	4
Reporter and/or Correspondent	230	6.48	4	29
Estimator, Printing Services	10	0.28	10	7
All Other Professional Workers	20	0.56	na	na
Technical Occupations	30	0.85	na	na
Computer Programmer	10	0.28	8	4
Drafter	20	0.56	19	10
Service Occupations	70	1.97	na	na
Janitor, Porter, or Cleaner	70	1.97	5	19
Maintenance and Production Occupations	1,600	45.07	na	na
Supervisor, Nonworking	40	1.13	8	18
All Mechanics and Repairers	10	0.28	na	na
Developer and/or Projection Printer	10	0.28	17	4
Delivery or Route Worker	30	0.85	9	20
Electrician	10	0.28	10	4
Production Packager, Hand or Machine	30	0.85	12	4
Offset Lithographic Press Operator, Sheet, Roll, or Web Fed	220	6.20	3	53
Platemaker	30	0.85	8	17
Stripper	70	1.97	6	25
Camera Operator, Printing	80	2.25	12	34
Strike-On Machine Operator	10	0.28	32	3
Hand Compositor	70	1.97	13	24
Imposer and Makeup Arranger	10	0.28	25	6
Line Casting Machine Operator	40	1.13	9	16
Line Casting Machine Tender	10	0.28	22	8
Pasteup Man or Woman	100	2.82	9	18
Phototypesetting Machine Keyboard Operator	60	1.69	8	6
Phototypesetting Machine Monitor	10	0.28	6	3

SIC 27 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Phototypesetter Operator	50	1.41	13	11
Proofreader, Composed Copy	70	1.97	7	30
Photoengraver	20	0.56	14	9
Letter Press Operator, Sheet, Roll, or Web Fed	120	3.38	6	30
Press Assistant and/or Feeder	40	1.13	14	9
Mailer	60	1.69	11	8
Cutter, Machine	10	0.28	20	3
Bookbinder, Hand	10	0.28	33	3
Bookbinder, Machine	60	1.69	21	10
Bindery Worker, Assembly	70	1.97	9	18
Bindery Worker, Stitching	20	0.56	9	8
All Other Bindery Workers	50	1.41	na	na
All Other Skilled Craft and Kindred Workers	50	1.41	na	na
All Other Operatives and Semiskilled Workers	30	0.85	na	na
All Other Laborers and Unskilled Workers	100	2.82	na	na
Clerical Occupations	740	20.83	na	na
Clerical Supervisor, Office or Plant	20	0.56	3	3
Computer Operator	10	0.28	9	7
Keypunch Operator	10	0.28	16	4
Accounting Clerk	10	0.28	19	5
Bookkeeper, Hand	80	2.25	6	50
File Clerk	20	0.56	5	3
General Clerk, Office	110	3.09	7	39
Order Clerk	10	0.28	12	3
Payroll and/or Timekeeping Clerk	10	0.28	3	4
Secretary	60	1.69	5	31
Switchboard Operator	10	0.28	5	3
Switchboard Operator/Receptionist	10	0.28	13	7
Messenger	10	0.28	7	3
Typist	60	1.69	7	32
Circulation Clerk	20	0.56	12	6
Classified Ad Clerk, Newspaper	10	0.28	3	4
Customer Service Representative, Printing and Publishing	10	0.28	11	3
Telephone Ad Taker, Newspaper	30	0.85	5	5
All Other Office Clerical Workers	100	2.81	na	na
Production Clerk and/or Coordinator	10	0.28	8	4
Shipping Packer	110	3.10	10	6
Shipping and/or Receiving Clerk	20	0.56	10	13
Sales Occupations	270	7.61	na	na
Sales Representative, Sales Agent, and/or Sales Associate	250	7.04	3	50
All Other Sales Workers	20	0.56	na	na

NEWSPAPERS: PUBLISHING, PUBLISHING AND PRINTING
SIC 271
May 1980

This industry category includes establishments primarily engaged in publishing newspapers, or in publishing and printing newspapers. These establishments carry on the various operations necessary for issuing newspapers, including the gathering of news and the preparation of editorials and advertisements, but may or may not perform their own printing.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	2,240	100.00	na	na
Managers and Officers	160	7.14	4	83
Professional Occupations	460	20.54	na	na
Photographer	30	1.34	7	17
Commercial Artist	20	0.89	11	17
Writer and/or Editor	160	7.14	4	63
Librarian, Professional	10	0.45	11	10
Reporter and/or Correspondent	230	10.27	5	63
All Other Professional Workers	10	0.45	na	na
Technical Occupations	10	0.45	na	na
Computer Programmer	10	0.45	8	10
Service Occupations	60	2.68	na	na
Janitor, Porter, or Cleaner	60	2.68	6	24
Maintenance and Production Occupations	790	35.27	na	na
Supervisor, Nonworking	30	1.34	9	22
Delivery or Route Worker	20	0.89	15	27
Electrician	10	0.45	9	7
Production Packager, Hand or Machine	30	1.34	14	7
Offset Lithographic Press Operator, Sheet, Roll, or Web Fed	50	2.23	10	39
Platemaker	20	0.89	11	17
Stripper	20	0.89	11	17
Camera Operator, Printing	20	0.89	9	29
Strike-On Machine Operator	10	0.45	32	7
Hand Compositor	40	1.79	22	29
Imposer and Makeup Arranger	10	0.45	35	10
Line Casting Machine Operator	10	0.45	29	7
Line Casting Machine Tender	10	0.45	32	10
Pasteup Man or Woman	80	3.57	10	32
Phototypesetting Machine Keyboard Operator	50	2.23	8	7
Phototypesetting Machine Monitor	10	0.45	6	7
Phototypesetter Operator	30	1.34	21	12
Proofreader, Composed Copy	40	1.79	10	37
Photoengraver	10	0.45	15	7

SIC 271 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Letter Press Operator, Sheet, Roll, or Web Fed	80	3.57	8	27
Press Assistant and/or Feeder	10	0.45	13	10
Mailer	60	2.68	11	17
All Other Skilled Craft and Kindred Workers	30	1.34	na	na
All Other Operatives and Semiskilled Workers	40	1.79	na	na
All Other Laborers and Unskilled Workers	70	3.13	na	na
Clerical Occupations	540	24.11	na	na
Clerical Supervisor, Office or Plant	20	0.89	3	7
Computer Operator	10	0.45	10	15
Keypunch Operator	10	0.45	16	10
Bookkeeper, Hand	30	1.34	13	39
File Clerk	20	0.89	5	7
General Clerk, Office	80	3.57	9	51
Payroll and/or Timekeeping Clerk	10	0.45	3	10
Secretary	30	1.34	5	27
Switchboard Operator	10	0.45	5	7
Switchboard Operator/Receptionist	10	0.45	17	10
Messenger	10	0.45	7	7
Typist	30	1.34	11	39
Circulation Clerk	20	0.89	14	12
Classified Ad Clerk, Newspaper	20	0.89	3	10
Telephone Ad Taker	30	1.34	5	12
All Other Office Clerical Workers	90	4.02	na	na
Production Clerk and/or Coordinator	10	0.45	2	7
Shipping Packer	100	4.46	10	7
Sales Occupations	220	9.82	na	na
Sales Representative, Sales Agent, and/or Sales Associate	200	8.93	4	71
All Other Sales Workers	20	0.89	na	na

CHEMICALS AND ALLIED PRODUCTS
SIC 28
June 1980

This major group includes establishments producing basic chemicals, and establishments manufacturing products by predominantly chemical processes.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	1,420	100.00	na	na
Managers and Officers	110	7.75	5	88
Professional Occupations	100	7.04	na	na
Chemical Engineer	10	0.70	2	20
Mechanical Engineer	10	0.70	7	12
All Other Engineers	10	0.70	na	na
Chemist	30	2.11	3	28
All Other Natural and Mathematical Scientists	10	0.70	na	na
Accountant and/or Auditor	10	0.70	3	16
All Other Professional Workers	20	1.41	na	na
Technical Occupations	40	2.82	na	na
Service Occupations	20	1.41	na	na
Janitor, Porter, or Cleaner	10	0.70	11	24
Guard or Doorkeeper	10	0.70	0	12
Maintenance and Production Occupations	1,000	70.42	na	na
Supervisor, Nonworking	70	4.93	4	44
Mechanic, Maintenance	20	1.41	0	12
Truck Driver	10	0.70	18	20
Carpenter	10	0.70	0	12
Electrician	20	1.41	4	16
Industrial Truck Operator	40	2.82	4	28
Machinist	10	0.70	3	12
Maintenance Repairer, General Utility	60	4.23	5	44
Helper, Trades	20	1.41	11	12
Plumber and/or Pipefitter	10	0.70	10	20
Production Packager, Hand or Machine	70	4.93	12	24
Welder and/or Flamecutter	20	1.41	5	16
Chemical Operator A	20	1.41	24	12
Chemical Operator B	30	2.11	6	12
Chemical Operator Helper	30	2.11	30	12
Drier Operator, Chemicals, Plastic Resins, and Rubber	20	1.41	15	12
Mixer and/or Blender, Chemicals and Chemical Products	30	2.11	7	44
All Other Skilled Craft and Kindred Workers	20	1.41	na	na
All Other Operatives and Semiskilled Workers	200	14.08	na	na

SIC 28 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
All Other Laborers and Unskilled Workers...	290	20.42	na	na
Clerical Occupations.....	120	8.45	na	na
Accounting Clerk.....	20	1.41	9	24
Bookkeeper, Hand.....	10	0.70	21	16
General Clerk, Office.....	10	0.70	7	36
Secretary.....	30	2.11	5	52
All Other Office Clerical Workers.....	20	1.41	na	na
Shipping and/or Receiving Clerk.....	10	0.70	14	24
Stock Clerk, Stockroom, Warehouse, or Storage Yard.....	10	0.70	5	12
All Other Plant Clerical Workers.....	10	0.70	na	na
Sales Occupations.....	30	2.11	na	na
Sales Representative, Sales Agent, and/or Sales Associate.....	30	2.11	16	36

RUBBER AND MISCELLANEOUS PLASTICS PRODUCTS
SIC 30
June 1980

This major group includes establishments manufacturing rubber products such as tires, rubber footwear, mechanical rubber goods, heels and soles, flooring, and rubber sundries from natural, synthetic, or reclaimed rubber, gutta, percha, balata, or gutta siak.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	4,130	100.00	na	na
Managers and Officers	190	4.60	10	100
Professional Occupations	90	2.18	na	na
Chemical Engineer	10	0.24	17	14
Industrial Engineer	10	0.24	33	23
Mechanical Engineer	10	0.24	10	14
All Other Engineers	10	0.24	na	na
Purchasing Agent and/or Buyer	10	0.24	10	27
Accountant and/or Auditor	20	0.48	14	36
Personnel and/or Labor Relations Specialist	10	0.24	2	32
Designer	10	0.24	12	23
Technical Occupations	30	0.73	na	na
Drafter	10	0.24	15	14
All Other Engineering Technicians	10	0.24	na	na
All Other Technical Workers	10	0.24	na	na
Service Occupations	30	0.73	na	na
Janitor, Porter, or Cleaner	30	0.73	3	36
Maintenance and Production Occupations	3,390	82.08	na	na
Supervisor, Nonworking	110	2.66	8	91
Mechanic, Maintenance	120	2.91	17	32
Truck Driver	50	1.21	36	41
Electrician	10	0.24	16	23
Industrial Truck Operator	40	0.97	38	18
Inspector	110	2.66	11	45
Machinist	50	1.21	16	27
Maintenance Repairer, General Utility	20	0.48	18	27
Order Filler	10	0.24	33	14
Production Packager, Hand or Machine	180	4.36	9	27
Welder and/or Flamecutter	20	0.48	4	14
Die Cutter	40	0.97	32	18
Finisher, Hand	20	0.48	29	14
Finisher, Machine	20	0.48	0	14
Patternmaker, Plastics	10	0.24	19	14
Rubber Goods Cutter Finisher	40	0.97	25	18
Trimmer, Plastics	50	1.21	26	18
Painter, Production	20	0.48	0	14

SIC 30 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Compression and/or Injection Molding Machine Operator, Plastics	260	6.30	25	41
Grinder Operator, Chemicals, Plastics, Rubber, and Related Materials	40	0.97	5	27
Assembler	780	18.89	21	55
Mixer and/or Blender, Chemicals and Chemical Products	20	0.48	48	14
All Other Skilled Craft and Kindred Workers	40	0.97	na	na
All Other Operatives and Semiskilled Workers	920	22.28	na	na
All Other Laborers and Unskilled Workers	410	9.93	na	na
Clerical Occupations	370	8.96	na	na
Clerical Supervisor, Office or Plant	10	0.24	24	14
Computer Operator	10	0.24	14	18
Accounting Clerk	20	0.48	17	23
Bookkeeper, Hand	10	0.24	23	14
General Clerk, Office	40	0.97	11	68
Payroll and/or Timekeeping Clerk	10	0.24	10	23
Personnel Clerk	10	0.24	13	18
Procurement Clerk	10	0.24	6	23
Secretary	20	0.48	8	55
Switchboard Operator/Receptionist	10	0.24	8	27
Typist	10	0.24	13	14
All Other Office Clerical Workers	20	0.48	na	na
Production Clerk and/or Coordinator	30	0.73	21	36
Shipping Packer	100	2.42	35	45
Shipping and/or Receiving Clerk	40	0.97	6	68
Stock Clerk, Stockroom, Warehouse, or Storage Yard	20	0.48	15	32
Sales Occupations	30	0.73	na	na
Sales Representative, Sales Agent, and/or Sales Associate	30	0.73	25	27

LEATHER AND LEATHER PRODUCTS
SIC 31
April 1980

This major group includes establishments engaged in tanning, currying, and finishing hides and skins, and establishments manufacturing finished leather and artificial leather products, and some similar products made of other materials.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	20,390	100.00	na	na
Managers and Officers	460	2.26	3	85
Professional Occupations	190	0.93	na	na
Industrial Engineer	30	0.15	12	21
Mechanical Engineer	10	0.05	15	5
Systems Analyst, Electronic Data Processing	10	0.05	9	5
Purchasing Agent and/or Buyer	40	0.20	4	33
Accountant and/or Auditor	30	0.15	8	16
Nurse, Professional	10	0.05	4	7
Personnel and/or Labor Relations Specialist	20	0.10	6	16
Designer	30	0.15	5	14
All Other Professional Workers	10	0.05	na	na
Technical Occupations	150	0.74	na	na
Computer Programmer	10	0.05	6	9
Engineering Technician	130	0.64	30	7
All Other Technical Workers	10	0.05	na	na
Service Occupations	240	1.18	na	na
Janitor, Porter, or Cleaner	150	0.74	3	53
Guard or Doorkeeper	70	0.34	7	16
All Other Service Workers	20	0.10	na	na
Maintenance and Production Occupations	17,950	88.03	na	na
Supervisor, Nonworking	510	2.50	2	69
Mechanic, Maintenance	120	0.59	4	33
All Other Mechanics and Repairers	10	0.05	na	na
Presser, Hand	10	0.05	23	4
Truck Driver	70	0.34	3	31
Carpenter	20	0.10	5	13
Delivery or Route Worker	20	0.10	6	9
Electrician	20	0.10	3	13
Industrial Truck Operator	50	0.25	6	15
Inspector	460	2.26	3	56
Machinist	70	0.34	5	39
Maintenance Repairer, General Utility	180	0.88	5	38
Helper, Trades	30	0.15	9	7
Millwright	10	0.05	15	8
Order Filler	50	0.25	12	12
Painter, Maintenance	10	0.05	7	4

SIC 31 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Plumber and/or Pipefitter	10	0.05	11	5
Production Packager, Hand or Machine	340	1.67	4	47
Sewing Machine Operator, Regular Equipment--Nongarment	580	2.84	10	22
Sewing Machine Operator, Special and/or Automatic Equipment--Nongarment	240	1.18	5	26
Stationary Boiler Firer	20	0.10	0	6
Skiver	280	1.37	3	68
Trimmer, Machine	170	0.83	5	42
Assembler for Puller Over, Hand or Machine	90	0.44	6	26
Bed Laster	70	0.34	11	13
Bottom Filler	40	0.20	4	24
Buffer, Hides or Skins	60	0.29	5	11
Buffer, Shoe Parts	120	0.59	6	40
Burnisher	60	0.29	5	26
Cementer, Machine Joiner	320	1.57	8	40
Perforator Operator	110	0.54	4	36
Cobbler	100	0.49	7	27
Die Cutter and/or Clicking Machine Operator	820	4.02	3	72
Flamer	60	0.29	4	39
Floor Worker, Footwear	690	3.38	6	69
Folder, Machine	70	0.34	9	24
Glue Spreading Machine Operator, Luggage	10	0.05	23	4
Heel Attacher	70	0.34	6	28
Heel Seat Laster, Machine	70	0.34	4	36
Heel Seat Fitter, Machine	20	0.10	10	12
Inker, Hand or Machine	70	0.34	5	31
Laster, Hand	90	0.44	16	14
Lasting Machine Operator, Hand Method	40	0.20	14	6
Leather Stamper, Hand	10	0.05	10	5
Limer	30	0.15	2	6
Tanning Liquor Maker	10	0.05	2	5
Measuring Machine Operator, Leather	20	0.10	3	6
Patternmaker	40	0.20	7	18
Puller Over	30	0.15	13	12
Repairer, Finish	330	1.62	5	41
Rough Rounder, Machine	60	0.29	6	27
Seam Rubbing Machine Operator	90	0.44	6	36
Seasoner, Machine	40	0.20	3	5
Seasoning Mixer	30	0.15	7	6
Shoe Parts Sewer, Hand	900	4.41	6	24
Shank Piece Tacker	60	0.29	6	31
Side Laster	70	0.34	5	25
Sole Leveler, Machine	40	0.20	11	11
Sorter, Leather	160	0.78	3	41
Splitting Machine Feeder	30	0.15	1	6
Sprayer, Hand and/or Machine	150	0.74	3	41
Stainer	40	0.20	9	19

SIC 31 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Staker, Machine	60	0.29	0	8
Stitcher, Special Machine	190	0.93	10	26
Stitcher, Standard Machine	3,480	17.07	3	68
Stitcher, Utility	270	1.32	4	53
Tacker, Toggler, and Paster	160	0.78	0	8
Tanning Drum Operator and/or Cooler, Hides or Skins	90	0.44	5	8
Tester	50	0.25	15	7
Thermalasting Machine Operator	20	0.10	14	7
Toe Laster	60	0.29	6	22
Treer	110	0.54	4	28
Vulcanizer, Footwear	50	0.25	7	8
Wringer Machine Operator	60	0.29	4	8
Riveter, Light	50	0.25	10	11
Compression and/or Injection Molding Machine Operator, Plastics	130	0.64	14	14
Conveyor Operator or Tender	80	0.39	5	24
Vamp Creaser	10	0.05	10	8
Splitter, Machine	100	0.49	4	35
Fastener, Machine	170	0.83	6	39
Cementer, Paster, Backer, or Fitter, Hand	500	2.45	4	60
Eyelet Machine Operator	110	0.54	5	47
Molder, Shoe Parts	90	0.44	11	14
Pulling and Lasting Machine Operator	90	0.44	7	22
Cutter, Hand	160	0.78	11	26
Gluer and/or Cementer, Hand	110	0.54	12	18
Instructor, Leather or Footwear Machinery	40	0.20	11	18
Embossing, Stamping, and/or Marking Machine Operator	240	1.18	4	61
Assembler	310	1.52	8	32
Beamer, Hand or Machine	20	0.10	4	6
All Other Skilled Craft and Kindred Workers	80	0.39	na	na
All Other Operatives and Semiskilled Workers	870	4.27	na	na
All Other Laborers and Unskilled Workers	1,790	8.78	na	na
Clerical Occupations	1,260	6.18	na	na
Clerical Supervisor, Office or Plant	90	0.44	11	25
Bookkeeping and/or Billing Machine Operator	10	0.05	13	6
Computer Operator	20	0.10	4	13
Keypunch Operator	20	0.10	6	12
All Other Office Machine Operators	10	0.05	na	na
Stenographer	10	0.05	9	7
Accounting Clerk	80	0.39	5	29
Bookkeeper, Hand	30	0.15	5	24
File Clerk	10	0.05	12	6
General Clerk, Office	160	0.78	2	38
Order Clerk	40	0.20	9	20

SIC 31 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
Payroll and/or Timekeeping Clerk	120	0.59	3	52
Personnel Clerk	20	0.10	6	21
Procurement Clerk	20	0.10	9	13
Receptionist	10	0.05	11	7
Secretary	40	0.20	6	27
Switchboard Operator	10	0.05	8	8
Switchboard Operator/Receptionist	40	0.20	3	38
Typist	30	0.15	8	6
All Other Office Clerical Workers	20	0.10	na	na
Production Clerk and/or Coordinator	70	0.34	6	31
Shipping Packer	150	0.74	8	36
Shipping and/or Receiving Clerk	120	0.59	5	58
Stock Clerk, Stockroom, Warehouse, or Storage Yard	120	0.59	3	34
All Other Plant Clerical Workers	10	0.05	na	na
Sales Occupations	140	0.69	na	na
Sales Representative, Sales Agent, and/or Sales Associate	60	0.29	8	21
Sales Clerk	80	0.39	2	8

FOOTWEAR, EXCEPT RUBBER
SIC 314
April 1980

This industry category includes establishments primarily engaged in manufacturing footwear such as boots, shoes, and slippers except those made of rubber or plastic.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	17,130	100.00	na	na
Managers and Officers	360	2.10	4	85
Professional Occupations	170	0.99	na	na
Industrial Engineer	40	0.23	12	28
Systems Analyst, Electronic Data Processing	10	0.06	9	7
Purchasing Agent and/or Buyer	40	0.23	4	43
Accountant and/or Auditor	20	0.12	11	18
Nurse, Professional	10	0.06	4	7
Personnel and/or Labor Relations Specialist	10	0.06	9	15
Designer	30	0.18	5	18
All Other Professional Workers	10	0.06	na	na
Technical Occupations	140	0.82	na	na
Computer Programmer	10	0.06	7	10
Engineering Technician	120	0.70	31	7
All Other Technical Workers	10	0.06	na	na
Service Occupations	190	1.11	na	na
Janitor, Porter, or Cleaner	130	0.76	3	58
Guard or Doorkeeper	40	0.23	7	17
All Other Service Workers	20	0.12	na	na
Maintenance and Production Occupations	15,130	88.32	na	na
Supervisor, Nonworking	350	2.04	3	70
Mechanic, Maintenance	80	0.47	6	38
Laundry Workers	10	0.06	na	na
Truck Driver	40	0.23	5	30
Carpenter	10	0.06	6	13
Delivery or Route Worker	20	0.12	9	10
Electrician	10	0.06	8	8
Industrial Truck Operator	20	0.12	14	7
Inspector	420	2.45	3	63
Machinist	60	0.35	6	42
Maintenance Repairer, General Utility	120	0.70	8	43
Helper, Trades	30	0.18	11	8
Millwright	10	0.06	20	8
Order Filler	50	0.29	12	17
Production Packager, Hand or Machine	280	1.63	5	50
Sewing Machine Operator, Regular Equipment--Nongarment	560	3.27	10	28

SIC 314 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Sewing Machine Operator, Special and/or Automatic Equipment--Nongarment	230	1.34	5	35
Skiver	250	1.46	3	80
Trimmer, Machine	140	0.82	6	45
Assembler for Puller Over, Hand or Machine	90	0.53	6	37
Bed Laster	70	0.41	11	18
Bottom Filler	40	0.23	5	32
Buffer, Hides or Skins	10	0.06	22	5
Buffer, Shoe Parts	120	0.70	6	50
Burnisher	60	0.35	5	33
Cementer, Machine Joiner	300	1.75	8	50
Perforator Operator	100	0.58	4	47
Cobbler	90	0.53	8	35
Die Cutter and/or Clicking Machine Operator	760	4.44	3	83
Flamer	50	0.29	4	52
Floor Worker, Footwear	630	3.68	6	83
Folder, Machine	60	0.35	10	30
Heel Attacher	70	0.41	6	40
Heel Seat Laster, Machine	70	0.41	4	52
Heel Seat Fitter, Machine	20	0.12	10	17
Inker, Hand or Machine	60	0.35	6	38
Laster, Hand	80	0.47	16	18
Lasting Machine Operator, Hand Method	40	0.23	14	8
Leather Stamper, Hand	10	0.06	10	7
Patternmaker	30	0.18	9	20
Puller Over	30	0.18	13	17
Repairer, Finish	330	1.93	5	55
Rough Rounder, Machine	60	0.35	6	35
Seam Rubbing Machine Operator	80	0.47	7	45
Shoe Parts Sewer, Hand	850	4.96	7	32
Shank Piece Tacker	50	0.29	7	40
Side Laster	70	0.41	5	35
Sole Leveler, Machine	40	0.23	11	15
Sorter, Leather	90	0.53	5	43
Sprayer, Hand and/or Machine	80	0.47	6	43
Stainer	30	0.18	10	25
Stitcher, Special Machine	200	1.17	10	37
Stitcher, Standard Machine	3,350	19.56	3	88
Stitcher, Utility	270	1.58	4	68
Tester	30	0.18	28	7
Thermalasting Machine Operator	20	0.12	14	10
Toe Laster	60	0.35	6	32
Treer	110	0.64	4	40
Vulcanizer, Footwear	50	0.29	7	12
Riveter, Light	40	0.23	12	13
Compression and/or Injection Molding Machine Operator, Plastics	90	0.53	20	13

SIC 314 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Conveyor Operator or Tender	70	0.41	6	30
Vamp Creaser	10	0.06	11	17
Splitter, Machine	80	0.47	5	42
Fastener, Machine	160	0.93	6	50
Cementer, Paster, Backer, or Fitter, Hand	470	2.74	4	75
Eyelet Machine Operator	110	0.64	5	62
Molder, Shoe Parts	50	0.29	18	15
Pulling and Lasting Machine Operator	90	0.53	7	30
Cutter, Hand	130	0.76	11	28
Gluer and/or Cementer, Hand	100	0.58	14	20
Instructor, Leather or Footwear Machinery	40	0.23	11	23
Embossing, Stamping, and/or Marking Machine Operator	190	1.11	4	70
Assembler	240	1.40	10	33
All Other Skilled Craft and Kindred Workers	70	0.41	na	na
All Other Operatives and Semiskilled Workers	560	3.27	na	na
All Other Laborers and Unskilled Workers	1,380	8.06	na	na
Clerical Occupations	1,030	6.01	na	na
Clerical Supervisor, Office or Plant	60	0.35	12	30
Bookkeeping and/or Billing Machine Operator	10	0.06	16	7
Computer Operator	20	0.12	5	13
Keypunch Operator	10	0.06	10	10
All Other Office Machine Operators	10	0.06	na	na
Stenographer	10	0.06	12	7
Accounting Clerk	60	0.35	6	30
Bookkeeper, Hand	20	0.12	9	18
File Clerk	10	0.06	15	5
General Clerk, Office	140	0.82	3	33
Order Clerk	40	0.23	10	22
Payroll and/or Timekeeping Clerk	100	0.58	4	57
Personnel Clerk	20	0.12	8	22
Procurement Clerk	20	0.12	13	13
Receptionist	10	0.06	11	10
Secretary	30	0.18	7	25
Switchboard Operator/Receptionist	30	0.18	3	43
Typist	30	0.18	8	8
All Other Office Clerical Workers	20	0.12	na	na
Production Clerk and/or Coordinator	60	0.35	7	35
Shipping Packer	120	0.70	10	37
Shipping and/or Receiving Clerk	90	0.53	6	60
Stock Clerk, Stockroom, Warehouse, or Storage Yard	110	0.64	4	38
Sales Occupations	110	0.64	na	na
Sales Representative, Sales Agent, and/or Sales Associate	40	0.23	13	17
Sales Clerk	70	0.41	2	8

STONE, CLAY, GLASS, AND CONCRETE PRODUCTS
SIC 32
May 1980

This major group includes establishments engaged in manufacturing flat glass and other glass products, cement, structural clay products, pottery, concrete and gypsum products, cut stone, abrasive and asbestos products, etc., from materials taken principally from the earth in the form of stone, clay, and sand.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	1,230	100.00	na	na
Managers and Officers	110	8.94	4	84
Professional Occupations	10	0.81	na	na
Service Occupations	10	0.81	na	na
Janitor, Porter, or Cleaner	10	0.81	12	14
Maintenance and Production Occupations	990	80.49	na	na
Supervisor, Nonworking	60	4.88	6	43
Mechanic, Automotive	50	4.07	7	39
Mechanic, Maintenance	10	0.81	17	16
Truck Driver	240	19.51	5	70
Concrete Rubber	10	0.81	23	9
Crane, Derrick, and/or Hoist Operator	10	0.81	15	16
Delivery or Route Worker	80	6.50	7	25
Heavy Equipment Operator	60	4.88	10	34
Industrial Truck Operator	50	4.07	6	45
Maintenance Repairer, General Utility	40	3.25	5	27
Order Filler	10	0.81	25	9
Welder and/or Flamecutter	10	0.81	12	18
Blockmaking Machine Operator	20	1.63	23	18
Brick and Tile Making Machine Operator	10	0.81	0	7
Cage Maker, Hand or Machine	10	0.81	34	7
Concrete Stone Fabricator	60	4.88	18	14
Setter and/or Drawer	20	1.63	0	7
Conveyor Operator or Tender	10	0.81	19	14
Mill and/or Grinder Operator, Minerals	20	1.63	7	9
Model and/or Mold Maker	10	0.81	21	9
Furnace, Kiln, Drier, or Oven Operator/ Tender	10	0.81	6	11
Batch Plant Operator	40	3.25	7	45
All Other Operatives and Semiskilled Workers	80	6.50	na	na
All Other Laborers and Unskilled Workers	70	5.69	na	na
Clerical Occupations	90	7.32	na	na
Accounting Clerk	10	0.81	21	11
Bookkeeper, Hand	20	1.63	12	27
General Clerk, Office	30	2.44	9	45
Secretary	10	0.81	9	11

SIC 32 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
Dispatcher, Vehicle, Service or Work.....	10	0.81	9	25
All Other Plant Clerical Workers.....	10	0.81	na	na
Sales Occupations.....	20	1.63	na	na
Sales Representative, Sales Agent, and/or Sales Associate.....	20	1.63	12	27

PRIMARY METAL INDUSTRIES
SIC 33
April 1980

This major group includes establishments engaged in the smelting and refining of ferrous and nonferrous metals from ore, pig, or scrap; in the rolling, drawing, and alloying of metals; in the manufacture of castings and other basic products of metals; and in the manufacture of nails, spikes, and insulated wire and cable.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	410	100.00	na	na
Managers and Officers	20	4.88	0	100
Professional Occupations	10	2.44	na	na
Technical Occupations	10	2.44	na	na
Maintenance and Production Occupations	320	78.05	na	na
Mechanics and Repairers	10	2.44	na	na
Filer, Grinder, Buffer, Chipper, Cleaner, and/or Polisher	10	2.44	14	44
Machinist	20	4.88	0	33
Coremaker, Hand, Bench, and/or Floor	10	2.44	9	33
Grinding and/or Abrading Machine Operator, Metal	30	7.32	6	56
Molder, Bench and/or Floor	30	7.32	11	56
Furnace Operator and/or Cupola Tender	20	4.88	3	44
All Other Skilled Craft and Kindred Workers	70	17.07	na	na
All Other Operatives and Semiskilled Workers	100	24.39	na	na
All Other Laborers and Unskilled Workers	20	4.88	na	na
Clerical Occupations	40	9.76	na	na
Office Clerical Workers	20	4.88	na	na
Shipping Packer	10	2.44	11	44
All Other Plant Clerical Workers	10	2.44	na	na
Sales Occupations	10	2.44	na	na

FABRICATED METAL PRODUCTS,
EXCEPT MACHINERY AND TRANSPORTATION EQUIPMENT
SIC 34 1/
June 1980

This major group includes establishments engaged in fabricating ferrous and nonferrous metal products such as metal cans, tinware, hand tools, cutlery, general hardware, non-electric heating apparatus, fabricated structural metal products, metal forgings, metal stampings, and a variety of metal and wire products not elsewhere classified.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	3,690	100.00	na	na
Managers and Officers	280	7.59	3	95
Professional Occupations	200	5.42	na	na
Civil Engineer	20	0.54	2	7
Industrial Engineer	20	0.54	1	9
Mechanical Engineer	40	1.08	10	28
All Other Engineers	20	0.54	na	na
Systems Analyst, Electronic Data Processing	10	0.27	15	7
Purchasing Agent and/or Buyer	30	0.81	5	23
Accountant and/or Auditor	30	0.81	8	32
Cost Estimator	20	0.54	6	18
Personnel and/or Labor Relations Specialist	10	0.27	7	11
Technical Occupations	130	3.52	na	na
Computer Programmer	10	0.27	4	5
Drafter	80	2.17	5	28
Tool Programmer, Numerical Control	10	0.27	8	5
All Other Engineering Technicians	20	0.54	na	na
All Other Technical Workers	10	0.27	na	na
Service Occupations	40	1.08	na	na
Janitor, Porter, or Cleaner	40	1.08	7	37
Maintenance and Production Occupations	2,690	72.90	na	na
Supervisor, Nonworking	110	2.98	4	37
Mechanic, Maintenance	30	0.81	8	19
All Other Mechanics and Repairers	10	0.27	na	na
Truck Driver	30	0.81	12	23
Blacksmith	20	0.54	37	5
Carpenter	10	0.27	6	7
Crane, Derrick, and/or Hoist Operator	30	0.81	9	11
Electrician	10	0.27	4	12
Filer, Grinder, Buffer, Cleaner, and/or Polisher	60	1.63	10	19
Industrial Truck Operator	40	1.08	7	19
Inspector	70	1.90	4	21
Machinist	90	2.44	26	21

SIC 34 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Maintenance Repairer, General Utility	30	0.81	4	11
Helper, Trades	80	2.17	9	26
Metal Fabricator	60	1.63	19	5
Millwright	10	0.27	11	5
Order Filler	30	0.81	11	12
Electroplater	50	1.36	11	5
Production Packager, Hand or Machine	60	1.63	7	26
Sandblaster and/or Shotblaster	10	0.27	6	7
Sheet Metal Worker	110	2.98	17	21
Tool and Die Maker	190	5.15	10	25
Welder and/or Flamecutter	290	7.86	5	40
Drill Press and/or Boring Machine Operator	40	1.08	8	23
Grinding and/or Abrading Machine Operator, Metal	40	1.08	15	18
Heat Treater, Annealer, and/or Temperer	10	0.27	9	7
Lathe and/or Turning Machine Operator, Metal	40	1.08	4	11
Lay Out Marker, Metal	40	1.08	15	9
Machine Tool Operator, Combination	130	3.52	7	23
Machine Tool Setter, Metalworking	20	0.54	7	7
Molder, Bench and/or Floor	20	0.54	24	5
Sawyer, Metal	10	0.27	11	7
Tester	20	0.54	6	7
Painter, Production	30	0.81	8	21
Punch Press Operator, Metal	50	1.36	10	21
Shear and/or Slitter Operator, Metal	30	0.81	12	25
Dip Plater, Nonelectrolytic	20	0.54	7	5
Fitter, Structural Metal	110	2.98	10	14
Power Brake and/or Bending Machine Operator, Metal	50	1.36	12	23
Assembler	250	6.78	8	32
All Other Skilled Craft and Kindred Workers	130	3.52	na	na
All other Operatives and Semiskilled Workers	70	1.90	na	na
All Other Laborers and Unskilled Workers	150	4.07	na	na
Clerical Occupations	310	8.40	na	na
Clerical Supervisor, Office or Plant	10	0.27	19	5
Computer Operator	10	0.27	14	7
Accounting Clerk	20	0.54	5	16
Bookkeeper, Hand	40	1.08	9	47
General Clerk, Office	50	1.36	7	51
Payroll and/or Timekeeping Clerk	10	0.27	5	9
Personnel Clerk	10	0.27	6	9
Secretary	50	1.36	6	39
Switchboard Operator/Receptionist	10	0.27	8	14
Typist	10	0.27	11	9
All Other Office Clerical Workers	10	0.27	na	na

SIC 34 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
Production Clerk and/or Coordinator.....	20	0.54	6	12
Shipping Packer.....	20	0.54	14	12
Shipping and/or Receiving Clerk.....	10	0.27	7	16
Stock Clerk, Stockroom, Warehouse, or Storage Yard.....	20	0.54	4	11
All Other Plant Clerical Workers.....	10	0.27	na	na
Sales Occupations.....	40	1.08	na	na
Sales Representative, Sales Agent, and/or Sales Associate.....	40	1.08	7	32

1/ Excludes SIC 348 - Ordnance and Accessories, Except Vehicles and Guided Missiles.

FABRICATED STRUCTURAL METAL PRODUCTS
SIC 344
June 1980

This industry category includes establishments manufacturing fabricated structural metal products such as fabricated structural metal; metal doors, sash frames, molding, and trim; fabricated plate work (boiler shops); sheet metal work; architectural and ornamental metal work; and prefabricated metal buildings.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	1,790	100.00	na	na
Managers and Officers	170	9.50	4	92
Professional Occupations	140	7.82	na	na
Civil Engineer	20	1.12	2	12
Industrial Engineer	20	1.12	2	12
Mechanical Engineer	20	1.12	13	31
All Other Engineers	20	1.12	na	na
Purchasing Agent and/or Buyer	20	1.12	5	35
Accountant and/or Auditor	20	1.12	7	35
Cost Estimator	10	0.56	6	23
Personnel and/or Labor Relations Specialist	10	0.56	5	12
Technical Occupations	100	5.59	na	na
Drafter	60	3.35	6	35
All Other Engineering Technicians	30	1.68	na	na
All Other Technical Workers	10	0.56	na	na
Service Occupations	10	0.56	na	na
Janitor, Porter, or Cleaner	10	0.56	12	35
Maintenance and Production Occupations	1,220	68.16	na	na
Supervisor, Nonworking	50	2.79	8	35
Mechanic, Maintenance	10	0.56	19	15
Truck Driver	20	1.12	13	35
Crane, Derrick, and/or Hoist Operator	20	1.12	10	12
Electrician	10	0.56	9	15
Industrial Truck Operator	10	0.56	19	19
Inspector	30	1.68	3	15
Machinist	10	0.56	26	15
Maintenance Repairer, General Utility	20	1.12	4	12
Helper, Trades	60	3.35	11	35
Metal Fabricator	60	3.35	19	12
Order Filler	20	1.12	2	12
Sandblaster and/or Shotblaster	10	0.56	9	12
Sheet Metal Worker	100	5.59	19	42
Welder and/or Flamecutter	260	14.53	5	54
Drill Press and/or Boring Machine Operator	10	0.56	18	27
Lay Out Marker, Metal	30	1.68	23	15
Machine Tool Operator, Combination	60	3.35	13	23
Sawyer, Metal	10	0.56	13	12
Painter, Production	20	1.12	10	31

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Punch Press Operator, Metal	10	0.56	17	12
Shear and/or Slitter Operator, Metal	20	1.12	18	23
Fitter, Structural Metal	110	6.15	10	27
Power Brake and/or Bending Machine Operator, Metal	20	1.12	17	23
Assembler	130	7.26	13	15
All Other Skilled Craft and Kindred Workers	30	1.68	na	na
All Other Operatives and Semiskilled Workers	60	3.35	na	na
All Other Laborers and Unskilled Workers	20	1.12	na	na
Clerical Occupations	130	7.26	na	na
Accounting Clerk	10	0.56	8	19
Bookkeeper, Hand	20	1.12	15	42
General Clerk, Office	30	1.68	11	54
Secretary	30	1.68	6	42
Switchboard Operator/Receptionist	10	0.56	7	19
All Other Office Clerical Workers	10	0.56	na	na
Shipping and/or Receiving Clerk	10	0.56	8	19
All Other Plant Clerical Workers	10	0.56	na	na
Sales Occupations	20	1.12	na	na
Sales Representative, Sales Agent, and/or Sales Associate	20	1.12	12	31

MACHINERY, EXCEPT ELECTRICAL
SIC 35
June 1980

This major group includes establishments engaged in manufacturing machinery and equipment, other than electrical equipment and transportation equipment.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	4,500	100.00	na	na
Managers and Officers	250	5.56	3	90
Professional Occupations	330	7.33	na	na
Electrical and/or Electronic Engineer	40	0.89	2	13
Industrial Engineer	100	2.22	3	22
Mechanical Engineer	70	1.56	2	19
All Other Engineers	10	0.22	na	na
Purchasing Agent and/or Buyer	30	0.67	4	22
Accountant and/or Auditor	40	0.89	7	26
Cost Estimator, Engineering	10	0.22	3	9
Personnel and/or Labor Relations Specialist	20	0.44	2	10
All Other Professional Workers	10	0.22	na	na
Technical Occupations	240	5.33	na	na
Computer Programmer, Business	10	0.22	2	6
Drafter	50	1.11	16	25
Electrical and/or Electronic Technician	120	2.67	1	10
Mechanical Engineering Technician	20	0.44	0	4
Tool Programmer, Numerical Control	10	0.22	2	9
All Other Engineering Technicians	20	0.44	na	na
All Other Technical Workers	10	0.22	na	na
Service Occupations	100	2.22	na	na
Janitor, Porter, or Cleaner	60	1.33	6	43
Guard or Doorkeeper	10	0.22	0	4
All Other Service Workers	30	0.67	na	na
Maintenance and Production Occupations	3,040	67.56	na	na
Supervisor, Nonworking	150	3.33	5	47
Mechanic, Maintenance	10	0.22	3	4
Truck Driver	10	0.22	1	13
Carpenter	10	0.22	13	6
Electrician	30	0.67	12	12
Filer, Grinder, Buffer, Chipper, Cleaner, and/or Polisher	40	0.89	10	18
Gear Cutting, Gear Grinding and/or Gear Shaping Machine Operator	70	1.56	0	4
Industrial Truck Operator	20	0.44	17	16
Inspector	140	3.11	2	24
Machinist	230	5.11	18	44
Maintenance Repairer, General Utility	40	0.89	10	16

SIC 35 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Helper, Trades	70	1.56	8	12
Millwright	10	0.22	12	9
Order Filler	10	0.22	3	4
Production Packager, Hand or Machine	10	0.22	6	4
Sandblaster and/or Shotblaster	10	0.22	9	7
Sheet Metal Worker	20	0.44	8	10
Tool and Die Maker	140	3.11	24	26
Welder and/or Flamecutter	210	4.67	3	51
Drill Press and/or Boring Machine Operator.	70	1.56	22	22
Grinding and/or Abrading Machine Operator, Metal	110	2.44	15	24
Heat Treater, Annealer, and/or Temperer	30	0.67	5	7
Lathe and/or Turning Machine Operator, Metal	140	3.11	6	31
Lay-Out Marker, Metal	10	0.22	3	4
Machine Tool Operator, Combination	170	3.78	10	43
Machine Tool Operator, Numerical Control	90	2.00	10	21
Machine Tool Operator, Toolroom	20	0.44	8	6
Machine Tool Setter, Metalworking	30	0.67	14	10
Milling and/or Planing Machine Operator	190	4.22	10	25
Sawyer, Metal	10	0.22	11	6
Tester	50	1.11	0	4
Painter, Production	60	1.33	3	22
Punch Press Operator, Metal	30	0.67	17	13
Shear and/or Slitter Operator, Metal	10	0.22	20	4
Power Brake and/or Bending Machine Operator, Metal	70	1.56	1	4
Machine Assembler	160	3.56	26	28
Electrical and Electronic Assembler	290	6.44	0	4
All Other Assemblers	20	0.44	na	na
All Other Skilled Craft and Kindred Workers	60	1.33	na	na
All Other Operatives and Semiskilled Workers	130	2.89	na	na
All Other Laborers and Unskilled Workers	60	1.33	na	na
Clerical Occupations	500	11.11	na	na
Clerical Supervisor, Office or Plant	10	0.22	12	7
Bookkeeping and/or Billing Machine Operator	10	0.22	33	4
Computer Operator	10	0.22	9	6
Keypunch Operator	10	0.22	12	4
Accounting Clerk	20	0.44	1	10
General Clerk, Office	100	2.22	8	54
Order Clerk	10	0.22	0	6
Payroll and/or Timekeeping Clerk	10	0.22	4	9
Personnel Clerk	10	0.22	11	6
Procurement Clerk	10	0.22	2	9
Secretary	50	1.11	3	31

SIC 35 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
Switchboard Operator/Receptionist	10	0.22	2	15
Typist	10	0.22	3	6
All Other Office Clerical Workers	10	0.22	na	na
Production Clerk and/or Coordinator	60	1.33	5	21
Shipping Packer	30	0.67	6	13
Shipping and/or Receiving Clerk	30	0.67	9	19
Stock Clerk, Stockroom, Warehouse, or Storage Yard	100	2.22	3	31
Sales Occupations	40	0.89	na	na
Sales Representative, Sales Agent, and/or Sales Associate	40	0.89	6	22

ELECTRICAL AND ELECTRONIC MACHINERY, EQUIPMENT, AND SUPPLIES
SIC 36
June 1980

This major group includes establishments engaged in manufacturing machinery, apparatus, and supplies for the generation, storage, transmission, transformation, and utilization of electrical energy.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	7,560	100.00	na	na
Managers and Officers	340	4.50	11	91
Professional Occupations	450	5.95	na	na
Electrical and/or Electronic Engineer	120	1.59	10	50
Industrial Engineer	130	1.72	3	50
Mechanical Engineer	30	0.40	4	41
All Other Engineers	10	0.13	na	na
Systems Analyst, Business	20	0.26	3	15
Systems Analyst, Scientific and Technical	10	0.13	5	12
Purchasing Agent and/or Buyer	30	0.40	4	47
Accountant and/or Auditor	40	0.53	4	53
Cost Estimator	10	0.13	21	12
Nurse, Professional	10	0.13	3	18
Personnel and/or Labor Relations Specialist	30	0.40	1	41
Designer	10	0.13	8	12
Technical Occupations	300	3.97	na	na
Computer Programmer, Business	10	0.13	5	15
Computer Programmer, Scientific and Technical	10	0.13	7	9
Drafter	30	0.40	19	35
Electrical and/or Electronic Technician	170	2.25	4	56
Mechanical Engineering Technician	10	0.13	37	9
Tool Programmer, Numerical Control	10	0.13	14	12
Industrial Engineering Technician	20	0.26	8	21
All Other Engineering Technicians	30	0.40	17	12
All Other Technical Workers	10	0.13	na	na
Service Occupations	70	0.93	na	na
Janitor, Porter, or Cleaner	50	0.66	4	47
All Other Service Workers	20	0.26	na	na
Maintenance and Production Occupations	5,810	76.85	na	na
Supervisor, Nonworking	310	4.10	3	68
Electrical Instrument Repairer	10	0.13	15	9
Mechanic, Maintenance	200	2.65	6	44
All Other Mechanics and Repairers	50	0.66	na	na
Truck Driver	10	0.13	16	18
Carpenter	10	0.13	6	12
Electrician	20	0.26	10	29

SIC 36 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Filer, Grinder, Buffer, Chipper, Cleaner, and/or Polisher	50	0.66	21	21
Industrial Truck Operator	10	0.13	10	15
Inspector	350	4.63	4	59
Instrument Repairer	10	0.13	13	12
Machinist	100	1.32	7	44
Maintenance Repairer, General Utility	20	0.26	14	8
Order Filler	20	0.26	11	9
Electroplater	50	0.66	11	12
Production Packager, Hand or Machine	160	2.12	19	21
Tool and Die Maker	60	0.79	5	26
Welder and/or Flamecutter	150	1.98	14	24
Drill Press Operator	40	0.53	11	9
Etcher and/or Engraver	20	0.26	6	12
Grinding and/or Abrading Machine Operator, Metal	30	0.40	27	9
Heat Treater, Annealer, and/or Temperer	20	0.26	12	9
Lathe and/or Turning Machine Operator, Metal	60	0.79	28	21
Machine Tool Operator, Combination	30	0.40	9	15
Machine Tool Operator, Numerical Control	50	0.66	8	18
Machine Tool Operator, Toolroom	30	0.40	12	12
Machine Tool Setter, Metal	80	1.06	11	15
Milling and/or Planing Machine Operator	40	0.53	24	12
Sawyer, Metal	10	0.13	17	15
Tester	220	2.91	10	35
Painter, Production	20	0.26	16	21
Wirer, Electronic	80	1.06	35	12
Punch Press Operator, Metal	70	0.93	35	18
Encapsulator	80	1.06	20	9
Machine Assembler	150	1.98	8	9
Electro-Mechanical Equipment Assembler	280	3.70	9	12
Electrical and Electronic Assembler	1,420	18.78	3	29
All Other Assemblers	660	8.73	na	na
Mixer and/or Blender, Chemicals and Chemical Products	20	0.26	6	15
All Other Skilled Craft and Kindred Workers	90	1.19	na	na
All Other Operatives and Semiskilled Workers	380	5.03	na	na
All Other Laborers and Unskilled Workers	340	4.50	na	na
Clerical Occupations	560	7.41	na	na
Computer Operator	10	0.13	22	15
Keypunch Operator	10	0.13	10	18
Peripheral Electronic Data Processing Equipment Operator	20	0.26	7	15
Accounting Clerk	50	0.66	11	41
File Clerk	10	0.13	25	12

SIC 36 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Clerical Occupations (cont.)				
General Clerk, Office	20	0.26	4	26
Order Clerk	20	0.26	23	18
Payroll and/or Timekeeping Clerk	20	0.26	4	41
Personnel Clerk	20	0.26	6	35
Procurement Clerk	10	0.13	16	15
Receptionist	10	0.13	5	15
Secretary	80	1.06	12	53
Statistical Clerk	10	0.13	18	12
Switchboard Operator/Receptionist	10	0.13	9	35
Typist	20	0.26	3	21
All Other Office Clerical Workers	10	0.13	na	na
Production Clerk and/or Coordinator	100	1.32	4	47
Shipping Packer	20	0.26	9	24
Shipping and/or Receiving Clerk	40	0.53	3	56
Stock Clerk, Stockroom, Warehouse, or Storage Yard	60	0.79	3	50
All Other Plant Clerical Workers	10	0.13	na	na
Sales Occupations	30	0.40	na	na
Sales Representative, Sales Agent, and/or Sales Associate	30	0.40	23	32

TRANSPORTATION EQUIPMENT
SIC 37 1/
June 1980

This major group includes establishments engaged in manufacturing equipment for transportation of passengers and cargo by land, air, and water.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	7,930	100.00	na	na
Managers and Officers	190	2.40	2	80
Professional Occupations	270	3.40	na	na
Industrial Engineer	40	0.50	1	6
Mechanical Engineer	20	0.25	0	8
All Other Engineers	60	0.76	na	na
Purchasing Agent and/or Buyer	100	1.26	1	27
All Other Professional Workers	50	0.63	na	na
Technical Occupations	220	2.77	na	na
Drafter	150	1.89	1	10
All Other Engineering Technicians	60	0.76	na	na
All Other Technical Workers	10	0.13	na	na
Service Occupations	170	2.14	na	na
Janitor, Porter or Cleaner	50	0.63	2	18
Guard or Doorkeeper	90	1.13	0	8
All Other Service Workers	30	0.38	na	na
Maintenance and Production Occupations	6,470	81.59	na	na
Supervisor, Nonworking	470	5.93	0	22
Mechanic, Automotive	10	0.13	23	6
Marine Mechanic and/or Repairer	30	0.38	18	16
All Other Mechanics and Repairers	160	2.02	na	na
Truck Driver	30	0.38	4	10
Carpenter	510	6.43	2	67
Crane, Derrick, and/or Hoist Operator	40	0.50	3	20
Electrician	590	7.44	0	22
Filer, Grinder, Buffer, Chipper, Cleaner, and/or Polisher	160	2.02	0	8
Inspector	140	1.77	0	6
Machinist	10	0.13	0	8
Maintenance Repairer, General Utility	50	0.63	4	8
Helper, Trades	90	1.13	2	10
Plumber and/or Pipefitter	430	5.42	1	22
Sewing Machine Operator, Regular Equipment--Nongarment	10	0.13	19	6
Sheet Metal Worker	310	3.91	0	8
Tool and Die Maker	60	0.76	0	6
Welder and/or Flamecutter	640	8.07	1	24
Drill Press and/or Boring Machine Operator	10	0.13	0	6

SIC 37 (cont.)

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
Maintenance and Production Occup. (cont.)				
Heat Treater, Annealer, and/or Temperer	10	0.13	0	6
Lathe and/or Turning Machine Operator, Metal	20	0.25	0	6
Machine Tool Operator, Combination	70	0.88	2	12
Shipfitter	320	4.04	2	10
Woodworking Machine Operator	10	0.13	25	10
Painter, Production	330	4.16	2	39
Assemblers	70	0.88	na	na
Laminator, Preforms	90	1.13	6	33
All Other Skilled Craft and Kindred Workers	510	6.43	na	na
All Other Operatives and Semiskilled Workers	570	7.19	na	na
All Other Laborers and Unskilled Workers	720	9.08	na	na
Clerical Occupations	590	7.44	na	na
Accounting Clerk	20	0.25	0	6
Bookkeeper, Hand	10	0.13	17	10
General Clerk, Office	70	0.88	3	39
Order Clerk	10	0.13	7	6
Payroll and/or Timekeeping Clerk	20	0.25	5	12
Procurement Clerk	30	0.38	0	6
Receptionist	10	0.13	6	12
Secretary	70	0.88	3	41
Typist	10	0.13	7	6
All Other Office Clerical Workers	100	1.26	na	na
Production Clerk and/or Coordinator	120	1.51	0	10
Shipping and/or Receiving Clerk	20	0.25	3	10
Stock Clerk, Stockroom, Warehouse or Storage Yard	70	0.88	1	14
All Other Plant Clerical Workers	30	0.38	na	na
Sales Occupations	20	0.25	na	na
Sales Representative, Sales Agent, and/or Sales Associate	10	0.13	7	16
All Other Sales Workers	10	0.13	na	na

1/ Excludes SIC 371 - Motor Vehicle and Motor Vehicle Equipment.

MEASURING, ANALYZING, AND CONTROLLING INSTRUMENTS;
PHOTOGRAPHIC, MEDICAL, AND OPTICAL GOODS;
WATCHES AND CLOCKS
SIC 38
April 1980

This major group of Instruments and Related Products includes establishments engaged in manufacturing instruments (including professional and scientific) for measuring, testing, analyzing, and controlling, and their associated sensors and accessories; optical instruments and lenses; surveying and drafting instruments; surgical, medical and dental instruments, equipment, and supplies; ophthalmic goods; photographic equipment and supplies; and watches and clocks.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	920	100.00	na	na
Managers and Officers	50	5.43	3	100
Professional Occupations	10	1.09	na	na
Technical Occupations	20	2.17	na	na
Service Occupations	10	1.09	na	na
Janitor, Porter, or Cleaner	10	1.09	13	44
Maintenance and Production Occupations	750	81.52	na	na
Supervisor, Nonworking	20	2.17	10	44
Maintenance Repairer, General Utility	10	1.09	7	33
Tester	20	2.17	1	33
Painter Production	10	1.09	7	33
Electrical and Electronic Assembler	230	25.00	11	33
All Other Skilled Craft and Kindred Workers	240	26.09	na	na
All Other Operatives and Semiskilled Workers	140	15.22	na	na
Laborers and Unskilled Workers	80	8.70	na	na
Clerical Occupations	70	7.61	na	na
Bookkeeper, Hand	10	1.09	8	44
Secretary	10	1.09	9	78
All Other Office Clerical Workers	30	3.26	na	na
Production Clerk and/or Coordinator	10	1.09	20	44
Stock Clerk, Stockroom, Warehouse or Storage Yard	10	1.09	12	44
Sales Occupations	10	1.09	na	na
Sales Representative, Sales Agent, and/or Sales Associate	10	1.09	14	33

MISCELLANEOUS MANUFACTURING INDUSTRIES
SIC 39
May 1980

This major group includes establishments primarily engaged in manufacturing products not classified in any other manufacturing major group. Industries in Maine in this group fall into the following categories: jewelry, silverware and plated ware; toys and amusement, sporting, and athletic goods; pens, pencils, and other office and artists' materials; costume novelties; and brooms and brushes, signs and advertising displays, hard surfaced floor coverings, and caskets.

Occupation	Estimated Employment	% of Total Empl.	Relative Error (%)	% of Units Reporting the Occupation
TOTAL ALL OCCUPATIONS	830	100.00	na	na
Managers and Officers	60	7.23	7	85
Professional Occupations	10	1.20	na	na
Service Occupations	10	1.20	na	na
Maintenance and Production Occupations	650	78.31	na	na
Supervisor, Nonworking	20	2.41	15	30
Maintenance Repairer, General Utility	20	2.41	20	25
Fabricator, Plastics	10	1.20	26	15
Sander, Wood	10	1.20	40	20
Painter, Production	20	2.41	31	20
Gluer and/or Cementer, Hand	10	1.20	16	15
Assembler	40	4.82	34	15
Decorator, Hand	10	1.20	20	15
All Other Skilled Craft and Kindred Workers	80	9.64	na	na
All Other Operatives and Semiskilled Workers	370	44.58	na	na
All Other Laborers and Unskilled Workers	60	7.23	na	na
Clerical Occupations	90	10.84	na	na
Bookkeeper, Hand	10	1.20	18	25
General Clerk, Office	10	1.20	13	20
Secretary	10	1.20	20	25
All Other Plant Clerical Workers	10	1.20	na	na
Production Clerk and/or Coordinator	10	1.20	16	15
Shipping Packer	20	2.41	14	35
Shipping and/or Receiving Clerk	10	1.20	14	25
All Other Plant Clerical Workers	10	1.20	na	na
Sales Occupations	10	1.20	na	na
Sales Representative, Sales Agent, and/or Sales Associate	10	1.20	26	15

NOTES ABOUT THE TABLE

Estimated Employment

If only one or two establishments reported a particular occupation, the employment for that occupation is not shown separately, but added to the appropriate "All Other" residual category. The "Total All Occupations" estimate for each industry was based on the second quarter 1980 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law.

Percent of Total Employment

The detail in the column entitled "% of Total Empl." may not add to totals due to rounding.

Relative Error

The relative error was computed only for specific occupations and not for residual categories nor for occupational groupings. If the relative error of an occupation exceeded 50 percent, the employment for that occupation was added to the residual category that was relevant to it. The relative error relates to the actual estimate before rounding. For an example of how the relative error is applied, see Accuracy of Occupational Employment Data in the METHODOLOGY.

Percent of Establishments Reporting the Occupation

The percent of establishments reporting each occupation could not be readily calculated for groups of occupations, but only for specific occupations.

Abbreviations

na - not applicable
SIC - Standard Industrial Classification, as defined in the 1972 edition of the Standard Industrial Classification Manual, prepared by the Executive Office of the President, Office of Management and Budget, Statistical Policy Division.
Empl. - Employment

Industry Coverage

All manufacturing industries were included in this Occupational Employment Statistics' survey, but the occupational employment estimates for the following SICs could not be included in this publication because this would have violated the confidentiality rule under which the data was collected, or because there was a very low response rate:

SIC 239 - Miscellaneous Fabricated Textile Products
SIC 295 - Paving and Roofing Materials
SIC 348 - Ordnance and Accessories, Except Vehicles and Guided Missiles
SIC 371 - Motor Vehicle and Motor Vehicle Equipment.

The Sample

The June 1979 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law was used as the sampling frame for the Occupational Employment Statistics (OES) Program's survey of manufacturing industries. Every unit in these industries which employed 4 or more employees in June 1979 was selected for inclusion in this survey.

This sampling frame, or universe from which the survey units were drawn, was made up of 2,029 establishments employing a total of 117,512 persons. Of these, the survey sample included 1,360 units, or 67.0 percent of the universe. These survey units employed 116,875 persons which accounted for 99.5 percent of the total universe employment.

The Survey

The survey consisted of an initial mailing and two follow-up mailings to nonrespondents. In addition, phone calls and personal visits were made to those employers whose responses were crucial for valid estimates. Usable responses were received from 1,108 units, or 81.5 percent of the original 1,360 sampled units. These usable responses represented 102,189 persons, or 87.4 percent of the total employment in the original surveyed units.

The Screening, Editing, and Estimating Procedure

Each completed questionnaire returned was edited and screened both manually and mechanically for consistency and accuracy. The resulting "clean data file" served as the basis for calculating estimates. The "clean" employer questionnaires were separated into seven size groups, the size being determined by the number of persons employed by each. The data was then tied into the universe employment for the report month of April, May, or June 1980 depending on the industry. These universe, or benchmark, figures came from the second quarter 1980 ES-202 report of Employment, Wages, and Contributions covered by the Maine Employment Security Law. The total survey data by size class, by industry, was divided into the universe data for corresponding size and industry classes. This produced benchmark factors which were applied to the occupational data, thus accounting for any nonresponding units, and any units not included in the sample. The occupational estimates were summed across size classes to the industry totals and rounded to the nearest ten. The percent of occupational distribution for each industry was then calculated.

Accuracy of Occupational Employment Data

There are two types of errors which affect the accuracy of the estimates published here--sampling and nonsampling errors. Sampling error is a specific arithmetic measure of the precision of an estimate. It is the difference between the estimate computed from the sample data and the result that would be obtained if the same methods were used to collect

identical information from the entire population or universe with no nonresponse. The relative error entries listed in this report are the sampling errors of each occupation expressed as a percent of that occupational estimate. In other words, relative error means that the chances are two out of three (a 68 percent confidence level) that the results of a comparable full-scale data collection (the universe) with 100 percent response, using the same survey approach would not differ by more than the percent error shown. The chances are 19 out of 20 (a 95 percent confidence level) that the results would not differ by more than twice the percent error shown. For example, it is estimated in this report that there are 20 hand equipment cleaners employed in the food and kindred products industry with a 3 percent relative error. Thus, at a 68 percent confidence level, it is assured that the results of a full-scale count of hand equipment cleaners in this industry would not differ from this estimate by more than 7 workers (240 x .03). At a 95 percent confidence level, the universe count would not differ from the estimate by more than 6 percent of 240, or 14 workers.

The nonsampling error results from external factors in a survey rather than from the fact that a sampling technique was used. Examples of these errors are: response errors, processing errors, computational errors, etc. The possibility of these errors was recognized from the start of the survey and every effort was made to avoid them.

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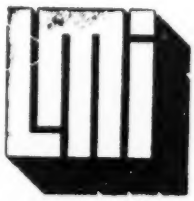

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